動作仕様書
(OPERATION SPECIFICATION)

BUYER'S MODEL No.	:	BCD536HP
UNIDEN No.	:	UB375Z
VERSION No.	:	1.09
ISSUED DATE	:	2013/10/01
CATEGORY	:	SCN
NAME	:	Tomokatsu Kohtaka

Uniden® Corporation
2-12-7 Hatchobori,Chuo-ku,Tokyo 104-8512
TEL 03-5543-2844
FAX 03-5543-2804

APRVD	CHECKED (E)	CHECKED (S)	CHECKED (M)	ISSUED

Table of Contents

1. FEATURE SUMMARY 1
1.1. BAND COVERAGE 1
1.2. NO PROGRAMMING REQUIRED 2
1.3. SIMPLE USER INTERFACE 2
1.4. SERVICE TYPE 2
1.5. AUDIO RECORDING 2
1.6. MEMORY 2
1.7. CHANNEL MEMORY SCAN 2
1.8. PRIORITY SCAN 2
1.9. SEARCH WITH SCAN 2
1.10. SCAN SPEED 3
1.11. AVOID FUNCTION FOR SCANNING 3
1.12. TEMPORARY AVOID 3
1.13. QUICK KEY 3
1.14. STARTUP CONFIGURATION 3
1.15. CHANNEL ALERT 3
1.16. DATA NAMING 3
1.17. DUPLICATE INPUT ALERT 3
1.18. NUMBER TAG 3
1.19. TRUNK TRACKING 3
1.20. APCO PROJECT25 DECODER 3
1.21. P25 AUTO ADJUST THRESHOLD 3
1.22. MULTI SITE SYSTEM 4
1.23. CONTROL CHANNEL ONLY 4
1.24. P25 ONE - FREQ TRUNK 4
1.25. PRIORITY ID SCAN 4
1.26. CUSTOM SEARCH 4
1.27. QUICK SEARCH 4
1.28. SEARCH SPEED / TURBO SEARCH 4
1.29. AVOID FUNCTION FOR SEARCHING 4
1.30. SEARCH KEY 4
1.31. BROADCAST SCREEN 4
1.32. ATTENUATOR 4
1.33. CODE SEARCH 5
1.34. P25 NAC 5
1.35. VOLUME OFFSET 5
1.36. IF EXCHANGE 5
1.37. DROPOUT DELAY 5
1.38. WEATHER AND SAME ALERT 5
1.39. CLOSE CALL 5
1.40. CLOSE CALL TEMPORARY STORE 5
1.41. TONE-OUT-SEQUENTIAL DECODE 5
1.42. LOCATION BASED SCANNING 5
1.43. PC CONTROL 5

1.44. LCD AND KEYPAD BACKLIGHT 5
1.45. TONE VOLUME ADJUST 6
1.46. EDIT FAVORITE LIST 6
1.47. ORANGE WIRE 6
1.48. AUDIO AGC 6
1.49. REPEATER REVERSE 6
1.50. MEMORY BACK UP 6
1.51. EDACS SYSTEM KEY 6
1.52. TRUNKING DISCOVERY 6
1.53. CONVENTIONAL DISCOVERY 6
1.54. TRUNKED SYSTEM ANALYZER (T.B.D.) 6
1.55. EDACS / LTR LCN FINDER (T.B.D.) 6
1.56. RF POWER PLOT (T.B.D.) 6
1.57. RAW DATA OUTPUT (T.B.D.) 7
1.58. AUDIO FEEDING (T.B.D.) 7
1.59. REMOTE CONTROL (T.B.D.) 7
1.60. Wi-Fi CONNECTION 7

2. DESIGN 8

3. CONTROLS AND KEYS 9
3.1. SCROLL CONTROL FUNCTION 9
3.2. KEY FUNCTION 9

4. DISPLAYS 10
4.1. LCD DESIGN 10
4.2. ICONS 10
4.3. DOT MATRIX 12
4.4. LCD FLASHING TIME 12

5. TONES 13
5.1. GENERAL TONES 13
5.2. WEATHER ALERT SIRENS 13
5.3. TONE IN MENU MODE 13
5.3.1. Selecting a menu item 13
5.3.2. Editing a name or a frequency etc 13
5.4. ALERT IN SCANNER MODE 14

6. OPERATIONS 15
6.1. POWER ON 15
6.2. WELCOME SCREEN 15
6.3. VOLUME AND SQUELCH CONTROL 15
6.3.1. Volume Control 15
6.3.2. Squelch Control 15
6.3.3. P25 Condition Mode 16
6.4. MENU MODE 17
6.4.1. General Operations 17
6.4.1.1. Key Operation 17
6.4.1.2. Display Format in Menu Mode 17
6.5. ADVANCED CHANNEL MENU 17
6.6. SCAN MODE 19
6.6.1. Display while Scan Mode 19
6.6.2. Startup Key Operation 20

6.6.3. Start Scanning 20
6.6.4. Scanning Order 21
6.6.5. Scanning Operation 21
6.6.5.1. Quick Key Operation 21
6.6.5.2. Scan for Trunked Systems 22
6.6.5.2.1. ID Display Format 23
6.6.6. Location Based Scan 24
6.6.7. Temporary System Hold 24
6.6.8. Temporary Department Hold 25
6.6.9. System Hold 25
6.6.10. Department Hold 25
6.6.11. Quick System Select 25
6.6.12. Unit ID of TGID 25
6.6.13. Key Operation During Scan Mode 26
6.7. SCAN HOLD MODE 26
6.7.1. Display while Scan Hold Mode 26
6.7.2. General Operation 26
6.7.3. Site Hold on Trunked System 27
6.7.4. Hold on Conventional System 28
6.7.5. Hold on Trunked System 28
6.7.6. Hold on TalkGroup ID from ID Search / ID Scan 28
6.7.7. Change Site Avoid Condition 28
6.7.8. Direct Entry 28
6.7.8.1. Store Frequency 29
6.7.8.2. Store TGID 29
6.7.8.3. Direct Access 30
6.7.9. Key Operation During Scan Hold Mode 30
6.8. PRIORITY SCAN 31
6.8.1. Priority Scan 31
6.8.2. Key Operation During Priority Scan 31
6.9. PRIORITY ID SCAN 32
6.9.1. Priority ID Scan 32
6.9.2. Key Operation During Priority ID Scan 32
6.10. SEARCH MODE 33
6.10.1. Display while Search Mode 33
6.10.2. General Operation 33
6.10.3. Custom Search 33
6.10.4. Quick Search 34
6.10.4.1. Quick Search for frequency 34
6.10.5. Key Operation During Search Mode 35
6.11. SEARCH HOLD MODE 35
6.11.1. General Operation 35
6.11.2. Go to Quick Search Hold Directly 35
6.11.3. Direct Entry 35
6.11.4. Key Operation During Search Hold Mode 35
6.12. CLOSE CALL MODE 36
6.12.1. Display while Close Call Mode 36
6.12.2. Close Call Search 36
6.12.3. Close Call Only 37
6.12.4. Close Call Hold 38
6.12.5. CC Bands 39
6.12.6. Key Operation During Close Call Only Mode 39
6.13. WEATHER SCAN MODE 40
6.13.1. Normal Weather Scan 40
6.13.2. Weather Alert Scan 40
6.13.3. Weather (Alert) Scan Hold 41
6.13.4. Weather Alert Priority (WX Alt Priority) 42

6.13.5. Key Operation During Weather (Alert) Scan Mode 42
6.14. TONE-OUT MODE 42
6.14.1. Display while Tone-Out Mode 42
6.14.2. Tone-Out Standby Mode 43
6.14.3. Tone-Out Search Mode 43
6.14.4. Tone-Out Hold Mode 44
6.14.5. Key Operation During Tone-Out Mode 45
6.14.6. Update Location Information 45
6.15. DISCOVERY FEATURE 45
6.15.1. Trunking Discovery Mode 45
6.15.2. Conventional Discovery Mode 46
6.15.3. Review Discovery Mode 47
6.15.3.1. Review Discovery 48
6.15.3.2. Review Run Results 48
6.16. Wi-Fi CONNECTION 49
6.16.1. Access Point Mode 49
6.16.2. Infrastructure Mode 49
6.17. AUDIO RECORD / REPLAY 50
6.18. REPEATER FIND 50
6.19. MEMORY INITIALIZATION 51
6.20. COMMENT ABOUT OPERATION 51
7. OTHERS 52
7.1. INITIAL SETTINGS 52
7.2. TGID FORMAT FOR TRUNKED SYSTEM 53
7.3. FLEET MAP 59
7.4. WEATHER CHANNELS 60
7.5. CTCSS FREQUENCY 60
7.6. DCS CODE 60
7.7. AVAILABLE CHARACTER 60
7.8. REVERSE LIST 62
7.9. REPEATER FREQUENCY LIST 62
7.10. CEA2009-SAME EVENT CODE(ANSI/CEA-2009-A October 2005) 63
7.11. FONT DATA 64
8. REVISION 65

1. FEATURE SUMMARY

1.1. BAND COVERAGE

Table 1-1 BAND COVERAGE

Frequency (MHz)		Modulation	Step (kHz)	Remark
Lower Edge	Upper Edge			
25.0000	26.9600	AM	5.0	Petroleum Products & Broadcast Pickup
26.9650	27.4050	AM	5.0	CB Class D Channel
27.4100	27.9950	AM	5.0	Business & Forest Products
28.0000	29.6800	NFM	20.0	10 Meter Amateur Band
29.7000	49.9900	NFM	10.0	VHF Low Band
50.0000	53.9800	NFM	20.0	6 Meter Amateur Band
54.0000	71.9500	WFM	50.0	VHF TV Broadcast 2 – 4
72.0000	75.9950	FM	5.0	Intersystem & Astronomy
76.0000	87.9500	WFM	50.0	VHF TV Broadcast 5 – 6
88.0000	107.9000	FMB	100.0	FM Broadcast
108.0000	136.9916	AM	8.33	Aircraft Band
137.0000	143.9875	NFM	12.5	Military Land Mobile
144.0000	147.9950	NFM	5.0	2 Meter Amateur Band
148.0000	150.7875	NFM	12.5	Military Land Mobile
150.8000	161.9950	NFM	5.0	VHF High Band
162.0000	173.9875	NFM	12.5	Federal Government
174.0000	215.9500	WFM	50.0	TV Broadcast 7 – 13
216.0000	224.9800	NFM	20.0	1.25 Meter Amateur Band
225.0000	379.9750	AM	25.0	UHF Aircraft Band
380.0000	399.9875	NFM	12.5	Military Band
400.0000	405.9875	NFM	12.5	Miscellaneous
406.0000	419.9875	NFM	12.5	Federal Government Land Mobile
420.0000	449.9875	NFM	12.5	70 cm Amateur Band
450.0000	469.9875	NFM	12.5	UHF Standard Band
470.0000	512.0000	NFM	12.5	UHF TV
758.0000	787.9937	NFM	6.25	Public Service Band
788.0000	805.9937	NFM	6.25	Public Service Band
806.0000	823.9875	NFM	12.5	Public Service Band
849.0125	868.9875	NFM	12.5	Public Service Band
894.0125	960.0000	NFM	12.5	Public Service Band
1240.0000	1300.0000	NFM	25.0	25 cm Amateur Band

- These Frequency Ranges suit to initial step setting. Step setting will change them.
- These Modulations are initial settings. They can be selected from AM / FM / NFM / WFM / FMB / AUTO. “FMB” means FM Broadcast demodulation [WFM (Broadcast)].
- These Steps are initial settings.
  Steps can be selected from 5 / 6.25 / 7.5 / 8.33 / 10 / 12.5 / 15 / 20 / 25 / 50 / 100 / AUTO (kHz).
- If "AUTO" is selected for Modulation or Step, the scanner works with the modulation or step of “Band Defaults” setting.
- If the Step is set to 15 kHz, inputable frequencies are xxx.x000, xxx.x150, xxx.x300, xxx.x450, xxx.x600, xxx.x750, and xxx.x900. For example, the next frequency of 400.0900 MHz is 400.1000 MHz.
- If the Step is set to 8.33kHz, inputable frequencies are xxx.x000, xxx.x083, xxx.x166, xxx.x250, xxx.x333, xxx.x416, xxx.x500, xxx.x583, xxx.x666, xxx.x750, xxx.x833, and xxx.916.
  For example, the next frequency of 100.0916 MHz is 100.1000 MHz.
- For 7.5 kHz Step, frequencies between 150.8150 and 154.6250 MHz is multiple of 7.5 kHz on the basis of 150.8150 MHz. For example, the next frequency of 150.8100 MHz is 150.8150 MHz, and the next frequency of 154.6250 MHz is 154.6275 MHz.

1.2. NO PROGRAMMING REQUIRED

Factory programmed to microSD card for all known radio systems in the US and Canada.
The database is updatable through a subscription service with RadioReference.com.

1.3. SIMPLE USER INTERFACE

Zip Code Selection Scan
Zip code entry for instant reception of local Police, Fire and EMS (ambulance).

Auto Locate
“Auto Locate” mode determines local systems to scan with no user input.

Location Base Scan
Connect a GPS for precise system selection and continuing reselection when you travel.

Favorite Scan
Select which favorites list the BCD536HP uses for reception. BCD536HP will only use channels from the chosen Favorites list. The BCD536HP can scan multi-favorites lists and full database at once.

1.4. SERVICE TYPE

BCD536HP scans channels using the selected service(s)

Total 39 types:

Multi-Dispatch, Law Dispatch, Fire Dispatch, EMS Dispatch, Multi-Tac,
Law Tac, Fire-Tac, EMS-Tac, Interop, Hospital,
Ham, Public Works, Aircraft, Federal, Business,
Railroad, Multi-Talk, Other, Law Talk, Fire-Talk, EMS-Talk,
Transportation, Emergency Ops, Military, Media, Schools,
Security, Utilities, Corrections,
Racing Officials, Racing Teams,
Custom 1 - Custom 8

1.5. AUDIO RECORDING

BCD536HP can record transmissions. You can replay recorded audio data.

1.6. MEMORY

External : 4GB SD card
Internal : Dynamic allocation. (Total 300,000 memory blocks)

1.7. CHANNEL MEMORY SCAN

The user can scan Channels already programmed.
The scanner can track both conventional and trunked System at the same time.

1.8. PRIORITY SCAN

The scanner checks conventional Priority Channels periodically while scanning. DND(Do-Not Disturb) mode keeps the scanner from interrupting transmissions during receiving.

1.9. SEARCH WITH SCAN

The scanner can do Custom Search with Scan sequentially.

1.10. SCAN SPEED

100 CH/SEC. in Scan Mode (max)

1.11. AVOID FUNCTION FOR SCANNING

The user can avoid any System, Department and Channel.
Avoided Channel will be skipped during scanning.
If the System or Department is avoided, the Channels belonging to that will be skipped during scanning.

1.12. TEMPORARY AVOID

Temporary AVOID is cleared by power-off.

1.13. QUICK KEY

The user can set Quick keys on favorites lists and systems.
Favorites list Quick Key : “0” to “99”.
System Quick Key : “0” to “99”.
The user can turn on or Off Quick Key by the keypad. (Detail: *6.6.5.1. Quick Key Operation*)

1.14. STARTUP CONFIGURATION

This function modifies Favorites Lists Monitor Status according to the setting of Startup Key.

1.15. CHANNEL ALERT

The user can set alert tone and alert light for each Channel.
This function alerts the user when the Channel becomes active.

1.16. DATA NAMING

The user can name to each System, Department, Channel, TGID, Custom Search Range, SAME Group and Tone-Out. The scanner allows up to 64 characters for each name.

1.17. DUPLICATE INPUT ALERT

The scanner will inform the user that now inputted Name, frequency and so on had already stored in Memory or in same System.

1.18. NUMBER TAG

This function is registered to Favorites Lists, System and Channel.
The user can access a system or a channel directly by using Number Tag.

1.19. TRUNK TRACKING

The scanner tracks following Systems.

- Motorola Type I 800
- Motorola Type II 800, 900, UHF, VHF
- EDACS WIDE, NARROW, With EDACS System Key
- LTR
- APCO P25 Standard, Phase2, P25 One-Freq

1.20. APCO PROJECT25 DECODER

Allows the user to hear the digitalized voice data that is compliant with the APCO Project25 standard. BCD536HP supports PHASE2 TDMA systems.

1.21. P25 AUTO ADJUST THRESHOLD

The scanner adjusts the threshold level automatically.

1.22. MULTI SITE SYSTEM

All trunked systems are able to have more than one site. The Multi Site System uses the common TGIDs.

1.23. CONTROL CHANNEL ONLY

Trunking is performed using Control Channel data only. The user does not have to program Voice channel frequencies in to memory (For Motorola System and APCO P25 Standard).

1.24. P25 ONE - FREQ TRUNK

This system is a kind of conventional P25 system using NAC and TGID for squelch control.
ID Search and ID Scan are available like other trunked systems.

1.25. PRIORITY ID SCAN

This function is very similar to conventional priority although there is no "interrupt" during the transmissions.
Priorities are checked in between transmissions.
This works on the Motorola and EDACS (Wide, Narrow), LTR, APCO P25 Standard.

1.26. CUSTOM SEARCH

The user can program Custom Search Ranges up to 10, and the user can search these Ranges sequentially.

1.27. QUICK SEARCH

If the user stops on a Channel in a conventional System, the user can start searching from the current frequency.
If the user stops on a Channel in a trunked System, the user can begin trunk ID searching in the System.

1.28. SEARCH SPEED / TURBO SEARCH

100 STEP/SEC. in Search Mode (max)	- except for 5 kHz step.
300 STEP/SEC. in Search Mode (max) - (Turbo Search)	- for 5 kHz step

*Turbo Search feature is built in and works at 5 kHz step setting automatically.

1.29. AVOID FUNCTION FOR SEARCHING

The user can avoid any frequency up to 500.
The limit of temporary AVOID frequencies: 250
The limit of permanent AVOID frequencies: 250
Avoided frequencies will be skipped in Search Mode or Close Call Mode.
And the user can review all avoided frequencies in Menu Mode.

1.30. SEARCH KEY

Search key is short cut to start searching for a single search range.
There are search keys from 1 to 3.

1.31. BROADCAST SCREEN

Allows the scanner to ignore hits on Pager, FM, UHF TV, VHF TV, NOAA WX and band* frequencies.
* The band is a frequency band that the user set respectively.

1.32. ATTENUATOR

The user can attenuate the incoming signal for channels that get interference from strong signal sources.

The user can set a global attenuator to apply attenuation to all reception.

1.33. CODE SEARCH

Rapid search for the CTCSS/DCS used during a transmission.

1.34. P25 NAC

P25 Network Access Code (NAC) is used to provide selective squelch operation on channels. The scanner will detect the NAC that is being used on a P25 digital channel.
NAC will be shown in Hexadecimal Format.

1.35. VOLUME OFFSET

Adjust a volume level from -3 to +3 step to balance audio level of each channel.
This function is registered in each channel.

1.36. IF EXCHANGE

Switches the current frequency to use a different IF(intermediate frequency) for receiving radio signals to avoid interference.

1.37. DROPOUT DELAY

Controls whether the scanner pauses at the end of a transmission to wait for a reply.
User can set Delay time by Each Channels. The user can also set the Delay time for Search, Close Call and Tone-Out.
The user can set the minus delay time. That case, the scanner only stops on transmissions for a set time, then automatically resumes.

1.38. WEATHER AND SAME ALERT

The scanner can alert to Weather Alert Tone, all FIPS or selected FIPS.

1.39. CLOSE CALL

The scanner can immediately detect and lock onto a transmission above threshold signal strength. DND (Don't Disturb) mode checks for Close Call activity in between channel reception so active channels are not interrupted.

1.40. CLOSE CALL TEMPORARY STORE

The scanner scans the last 10 frequencies captured by Close Call so that you can continue to receive the signal even after the signal is not strong enough to trigger a Close Call hit.
User can confirm these received frequencies (last 10 frequencies) by Search with Scan feature.

1.41. TONE-OUT-SEQUENTIAL DECODE

Lets you set the scanner to act as a two-tone pager for fire tone-out standby. If you do not know the tones being used, the scanner can detect the tones when it receives a page.

1.42. LOCATION BASED SCANNING

The scanner can automatically unavoid and avoid systems, sites and channel groups based on your current location as provided by an external GPS unit (not included).

1.43. PC CONTROL

The user can download information into the scanner and control the scanner via your personal computer.

1.44. LCD AND KEYPAD BACKLIGHT

The user can select LCD backlight condition.

It has 3 dimmer steps.
The Keypad backlight is single white.
The user can turn on/off the LCD and the Keypad backlight.
And the scanner will turn on/off the LCD and the Keypad backlight automatically according to backlight setting.

1.45. TONE VOLUME ADJUST

This feature allows the user to adjust a volume level of the following tones:
Key Beep, Emergency Alert, Channel Alert, Close Call Alert, Tone-Out detection Alert.

1.46. EDIT FAVORITE LIST

You can create new systems in the unit.

1.47. ORANGE WIRE

Orange wire is dimmer input terminal of Backlight.
The scanner adjusts Backlight brightness when the driver turns on or off the Headlight.

1.48. AUDIO AGC

The scanner judges strength of the signal and changes the volume automatically.
In this item, the user can set Analog Audio and Digital Audio.

1.49. REPEATER REVERSE

One-touch key lets user switch to hearing the input frequency on a conventional repeater system or trunked system.

1.50. MEMORY BACK UP

Scanner memory is backed up semi permanently.
And the user can initialize the Memory.

1.51. EDACS SYSTEM KEY

EDACS System Key is used to modify the command word on control channel. Scanner receives automatically the EDACS system with EDACS System Key.

1.52. TRUNKING DISCOVERY

Monitors the selected trunked system, looking only for "new" channels. When a new channel is active, the audio is recorded. A log is kept of all hits and can be reviewed, later.

1.53. CONVENTIONAL DISCOVERY

Similar to trunking discovery mode, but searches a frequency range and compares to frequencies used in the set location/range to determine whether a hit is "new" or not.

1.54. TRUNKED SYSTEM ANALYZER (T.B.D.)

Trunked System Analyzer includes System Load / Reception Status, Current Activity, LCN Monitor, Activity Log and Talk Group Converter.

1.55. EDACS / LTR LCN FINDER (T.B.D.)

Monitors system traffic on the programmed frequencies and correlates frequency activity against the LCNs of the active channels. Once full correlation is made, allows you to save the LCN assignments back to the system in question.

1.56. RF POWER PLOT (T.B.D.)

Plots RF level vs. time for a single frequency.

1.57. RAW DATA OUTPUT (T.B.D.)

BCD536HP outputs received signal raw data stream to USB port.

1.58. AUDIO FEEDING (T.B.D.)

User can get current audio recording files promptly by USB connection.

1.59. REMOTE CONTROL (T.B.D.)

User can control BCD536HP from PC by USB connection and Wi-Fi connection.

1.60. Wi-Fi CONNECTION

The scanner connect to external Wi-Fi equipments through the Wi-Fi module.

2. DESIGN

This design has some difference from the actual design and is intended for reference only.

Figure 2-1 Front Panel

3. CONTROLS AND KEYS

There are Normal Mode and Function Mode in key operation.

Normal Mode:
Normal Mode means that is not Function Mode. In this mode, **F** icon is not displayed.

Function Mode:
Pressing [Rotary / FUNC] knob puts the scanner into Function Mode for 3 seconds. While it is in Function Mode, the scanner displays **F** icon.

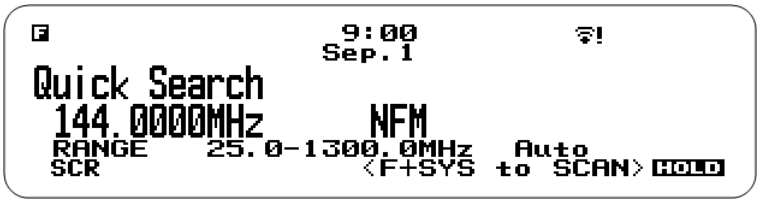


Figure 3-1

And pressing [Rotary / FUNC] knob again in each Function Mode to return to Normal Mode and **F** icon disappears.

"Long press" means pressing a key more than 2 seconds.

3.1. SCROLL CONTROL FUNCTION

POW(Power) / VOL(Volume) Knob (Backlight key)
- Turn this knob to turn on or off the scanner.
- Turn this knob to adjust the volume level.
- Press this knob to illuminate the LCD backlight.
  (Off → Low → Middle → High)

SQ(Squelch) Knob (Close Call key)
- Turn this knob to adjust the squelch level.
- Press this knob to toggle Close Call Mode. (CC DND / CC Priority / Off)
- Long press this knob to go to Close Call Only Mode.

Function + SQ(Squelch) Knob
- Press this knob to go to Tone-Out Standby Mode.

Rotary Knob (FUNC key)
- Turn this knob to select Channel, Frequency or TGID in Hold Mode.
- Turn this knob to select Menu item in Menu Mode.
- Turn this knob to select a character while editing name.
- Turn this knob to resume scanning or searching while monitoring.
- Press this knob to go to Function Mode.
- If the user presses any key in Function Mode that cause a mode change, the scanner will cancel the Function Mode, and return to the Normal Mode.
- Press this knob to decide the input data or a Menu Item in Menu Mode.

3.2. KEY FUNCTION

Refer to APPENDIX "Key Action List". (UB375Z_KeyActionList_V0_15.pdf)

4. DISPLAYS

4.1. LCD DESIGN

The design is different from the actual design and is intended for reference only.

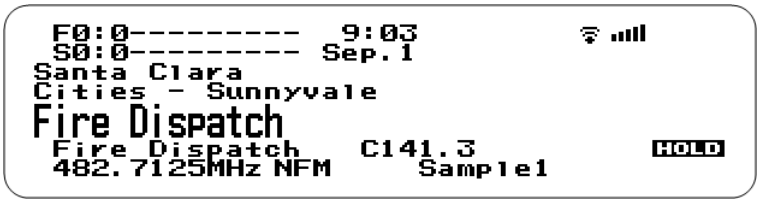


Figure 4-1 Example 1

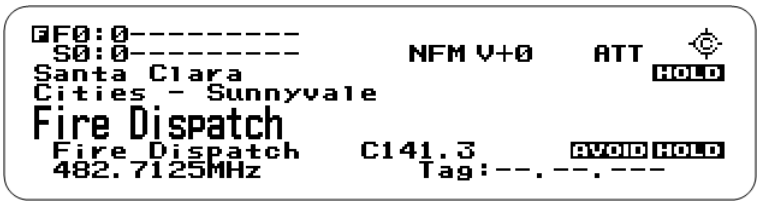


Figure 4-2 Example 2

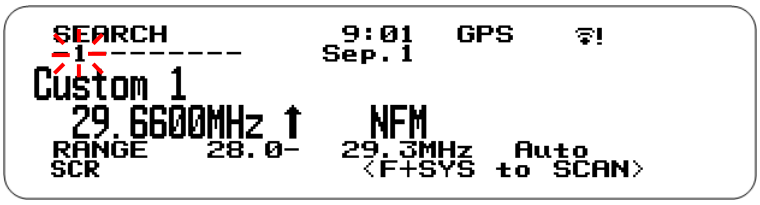


Figure 4-3 Example 3

4.2. ICONS

Fx: :
This icon appears with icons of Quick Key number for Favorites (from “0” to “99”).
“x” shows current ten’s place of Quick Key for Favorite.

Sx: :
This icon appears with icons of Quick Key number for Systems and Sites (from “0” to “99”).
“x” shows current ten’s place of Quick Key for System or Site.

0 - 9:
In SCAN mode, the numbers of assigned off Quick Key for Favorites List and avoided Quick Key for Systems are displayed. And a current scanning number blinks.
In SCAN HOLD mode, the Quick Key number of the current Favorite/System is displayed.
The numbers of selected User Ranges appear while Custom Search. And the number of searching Range blinks.

HOLD:
This icon appears in one of Hold Modes.

AVOID :
This icon appears at Permanent avoided System/Department/Channel. At this time, AVOID information is memorized to SD card. So, if user power on again, then that System/Department/Channel is avoided.

AVOID:
This icon appears at Temporary avoided System/Department/Channel . At this time, AVOID information is not memorized to SD card. So, if user power on again, then that System/Department/Channel is not avoided.

PRI:
This icon turns on while the Priority Scan works.

PRI:
This icon turns on while the Priority DND Scan works.

GPS:
This icon appears when the scanner receives GPS data.

AM / FM / NFM / FMB / WFM:
These icons show the modulation type. "AM", "FM" ,"NFM", "FMB" or "WFM" will appear.

ATT:
This icon appears when a channel has attenuator on and this blinks while global attenuator is on.

P25:
This icon shows the receiving digitalized voice of APCO P25.

LNK:
This icon appears when data is received on VOICE CHANNEL.
Then, this shows in the same place as "P25" icon.

DAT:
This icon appears when data on CONTROL CHANNEL is received.
Then, this shows in the same place as "P25" icon.

ENC:
This icon appears when the digitalized voice from which APCO P25 is encrypted is received and the scanner mutes audio.
Then, this shows in the same place as "P25" icon.

C162.2 / DCS023 / NAC:000 / etc.**:**
The scanner displays the data of CTCSS/DCS/P25 NAC in the location here. Then, this shows in the same place as "P25" icon.

SCR:
This icon appears when one or more Broadcast Screen Band is set to on.

WX:
This icon turns on while the Weather Alert Priority Scan works.

F (Function icon) :
This icon appears while Function Mode.

P (Priority Channel) :
This icon appears when the channel set to “Priority On".

(Signal Indicator) :
This icon shows strength of the signal from 0 to 5.

(Close Call Priority) :
This icon appears when the Close Call Mode is CC Priority Mode.
This blinks while Close Call Only Mode or when the scanner detects the Close Call.

(Close Call DND) :
This icon appears when the Close Call Mode is CC DND Mode.
This is a reverse display of Close Call Priority icon.

(Wi-Fi) :
This icon appears when Wi-Fi module is not connect.

4.3. DOT MATRIX

288 x 64 Full Dot Matrix

4.4. LCD FLASHING TIME

About 500 ms ON / About 500 ms OFF (nearly 1.0 Hz)

5. TONES

The scanner will be able to produce 3 fundamental tones, high (1200 Hz), middle (920 Hz), and low (640 Hz) tones. Furthermore, there are Alert Tone and Weather Alert Sirens with which other sound sounds.
Additionally, special alert tones (CC alert, Emergency alert and WX alert, etc) can be set to custom volume levels.

5.1. GENERAL TONES

Key Touch Tone
When the user presses valid keys, the scanner will sound single high beep for 50 ms.

Confirmation Tone
The scanner will sound double high beep for confirmation (50 ms beep - 100 ms silent - 50 ms beep).

Exec Tone
When the user presses [E yes] key etc. to accept the entry or setting, the scanner will sound high-middle beep (75 ms high beep - 25 ms silent - 75 ms middle beep).

Error Tone
When the user presses a key that does not have a valid function in the current mode, the scanner will sound a triple low beep (75 ms beep - 25 ms silent -- repeat 2 times)

5.2. WEATHER ALERT SIRENS

The scanner sounds following tones.

For Warning
[100 ms 120 Hz - (20 ms every 150 - 195 Hz in 5 Hz step) - (30 ms every 200 - 590 Hz in 10 Hz step) - 500 ms 600 Hz - 100 ms silent] --- repeat

For Watch
[(50 ms 800 Hz - 30 ms silent - 50 ms 1050 Hz - 30 ms silent) -- repeat 3 times - 170 ms silent] --- repeat

For Advisory
[100 ms 800 Hz - 50 ms silent - 100 ms 1050 Hz - 500 ms silent] — repeat
For Weather Alert Tone: Same as Weather Alert Siren For Warning.

5.3. TONE IN MENU MODE

5.3.1. Selecting a menu item

As the user steps to the next menu item by turning [Rotary / FUNC] knob, the scanner will sound a single high beep for 100 ms.
However, if the menu item is the last item and the user turns [Rotary / FUNC] knob in the clockwise direction, the scanner will sound a double high beep (75 ms beep - 25 ms silent - 75 ms beep).
When the user selects a menu item by pressing [E yes] key, the scanner will sound a single middle beep for 100 ms.
Or, as the user returns to a previous menu by pressing [MENU] key, the scanner will sound a double middle beep (75 ms beep - 25 ms silent - 75 ms beep).

5.3.2. Editing a name or a frequency etc

When the user selects the letters, the scanner sounds a single high beep as often as the user turns [Rotary / FUNC] knob.
When the user moves cursor from the left to the right, the scanner will sound a single middle beep (100 ms). Or, when the user moves cursor from the right to the left, the scanner will sound a double middle beep (75 ms beep - 25 ms silent - 75 ms beep).

If the user stores the inputted data by pressing [E yes] key, the scanner sounds Exec Tone.

5.4. ALERT IN SCANNER MODE

The user can select channel or frequency alert from Alert1-9 in Menu by "Set Alert" and "Emergency Alert".
The alert that can select in menu is as follows.

Alert 1
[50 ms 3000 Hz - 20 ms silent - 50 ms 3000 Hz - 20 ms silent - 50 ms 3000 Hz]

Alert 2
[(50 ms 800 Hz - 20 ms silent - 50 ms 1050 Hz - 20 ms silent) -- repeat 2 times]

Alert 3
[50 ms 800 Hz - 20 ms silent - 50 ms 1050 Hz - 20 ms silent - 100 ms 3000 Hz]

Alert 4
[(10 ms 120 Hz - 10 ms 800 Hz - 10 ms 1200 Hz) -- repeat 5 times]

Alert 5
[150 ms 1200 Hz]

Alert 6
[70 ms 1200 Hz - 50 ms silent - 70 ms 1200 Hz]

Alert 7
[(200 ms 2000 Hz - 10 ms silent - 150 ms 800 Hz) -- repeat 3 times]

Alert 8
[40 ms 500 Hz - 10 ms silent - 40 ms 500 Hz - 10 ms silent - 40 ms 500 Hz]

Alert 9
[(70 ms 2400 Hz - 20 ms silent - 70 ms 3000 Hz - 70 ms silent) -- repeat 2 times]

6. OPERATIONS

NOTE: Pressing [AVOID] key cancels the prompt and exit from Menu and so on immediately.

6.1. POWER ON

Turn [POW / VOL] knob to turn on the scanner.

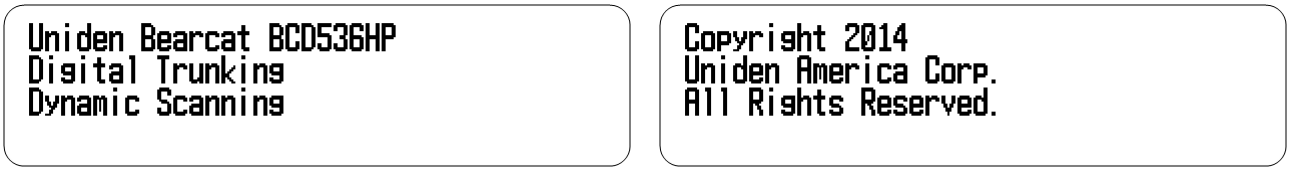


Figure 6-1 Opening Screen

6.2. WELCOME SCREEN

If the scanner detects that the real-time clock setting is lost or stop, the scanner displays a popup warning when the scanner powers up, then go directly to the date and clock setting screen. According to an indication screen, user inputs the date and time.

Figure 6-2 Welcome Screen

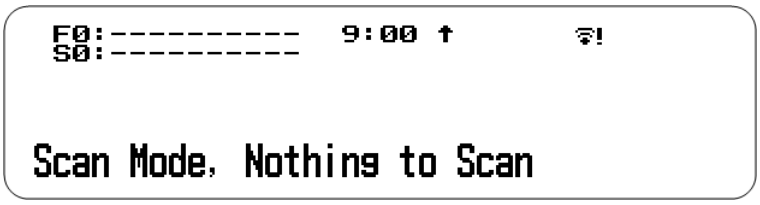


Figure 6-3 No Scanning List (3 Line Mode On)

6.3. VOLUME AND SQUELCH CONTROL

6.3.1. Volume Control

Turn [POW / VOL] knob to adjust the volume.

The volume level appears in the screen top right corner while adjust the volume. This indicator automatically disappears after 3 seconds.

Figure 6-4 SQL/VOL Level

6.3.2. Squelch Control

Turn [SQ] knob to adjust the squelch.

The squelch level appears in the screen top right corner while adjust the squelch.
This indicator automatically disappears after 3 seconds.

6.3.3. P25 Condition Mode

To go to P25 Condition Mode, press [POW / VOL] knob in Function Mode.
The user can see the current status of APCO decoding and the Threshold Level in this mode.
User can change Threshold Level when MANUAL mode by rotating [Rotary / FUNC] knob.

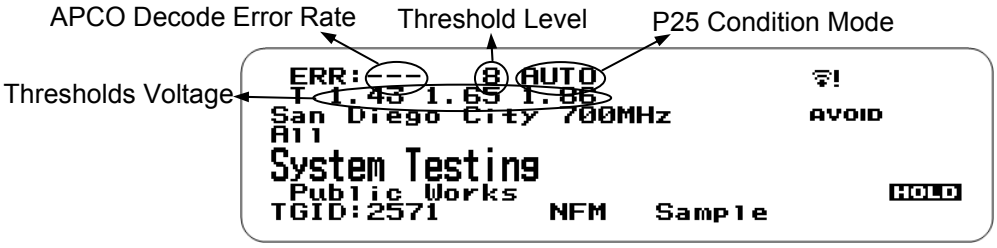


Figure 6-5 P25 Condition (AUTO)

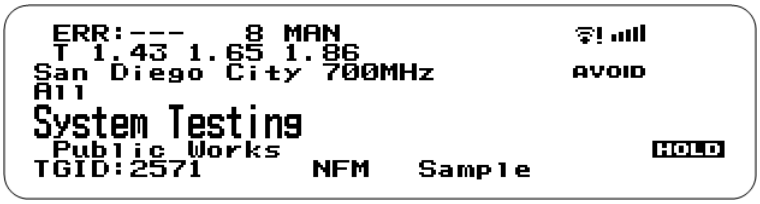


Figure 6-6 P25 Condition (MANUAL)

Press [Rotary / FUNC] knob + [POW / VOL] knob to quit the P25 Condition Mode.
This mode doesn't have the time-out.

6.4. MENU MODE

Refer to APPENDIX “Menu Tree Specification”. (UB375Z_MenuTreeSpecification_V0_15.pdf)

6.4.1. General Operations

6.4.1.1. Key Operation

Enter the Menu Mode:
-> Press [MENU] key

To select a Menu item:
-> Turn [Rotary / FUNC] knob

To decide the Menu item or input data:
-> Press [E yes] key or [Rotary / FUNC] knob

To Return to the previous menu by one layer:
-> Press [MENU] key

To exit from Menu Mode:
-> Press [MENU] key at Top Menu to return to previous mode
-> Press [AVOID] key to exit Menu and return to previous mode

Note: Press [Rotary / FUNC] knob can be used instead of [E yes] key in Menu Mode or at various prompts.
If cursor go to the bottom of the Menu, the next step will move to the top of the menu.
Menu items are described as the bold letter in this specification.
The message “Press Any Key” in Menu Mode means press any physical key except the [AVOID] key. [AVOID] key is used to exit from Menu Mode directly.

6.4.1.2. Display Format in Menu Mode

The Menu Item screen is four-line mode.
The first line displays the Menu Item Name and the selection items are displayed below.
For example, the Menu display of a channel modulation setting is as follows.

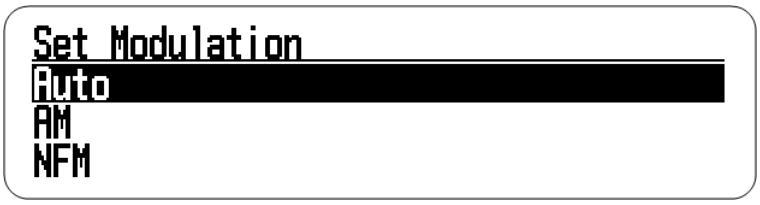


Figure 6-7

The user selects setting item by turning [Rotary / FUNC] knob and decides the item by pressing [E yes] key.

6.5. ADVANCED CHANNEL MENU

A menu to choose the action for the current channel appears when user press [E yes] key while the scanner receive a signal or in Scan Hold Mode. This menu is Advanced Channel Menu.

The items to display by this menu are as follows. The scanner displays only an executable item at that time.
- Edit Current Channel
- Add to Favorites List
- Save Sub Audio
- Save Talk Group ID
- Save Unit ID

Edit Current Channel
This item is function that user edits the stored data of target Channel.

Add to Favorites List
This item store Channel for Scan in Favorites List. Favorites List where it is not load to CMB is also targeted for storage.

Save Sub Audio
This item store Sub Audio which the scanner received in Scan to CMB and Favorites List.

Save Talk Group ID
This item store the Talk Group ID that the scanner received in ID Search to CMB and Favorites List.

Save Unit ID
This item store the Unit ID that the scanner received in Unit ID Search to CMB and Favorites List..

Refer to APPENDIX “Advanced Channel Menu”. (UB375Z_AdvancedChannelMenu_V0_02.pdf)

6.6. SCAN MODE

6.6.1. Display while Scan Mode

The LCD display in Scan mode is as follows.

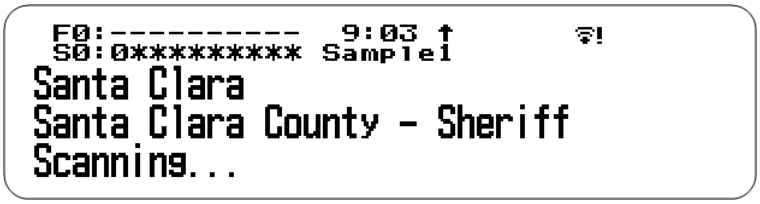


Figure 6-8 Scanning (3 Line Display Mode On)

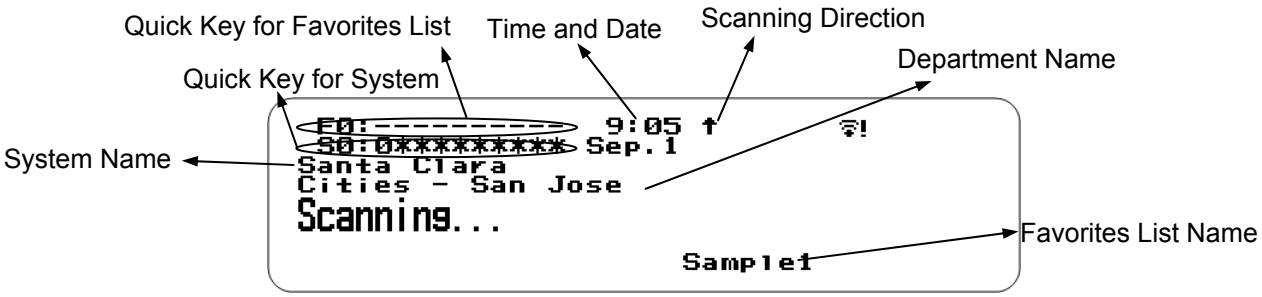


Figure 6-9 Scanning (3 Line Display Mode Off)

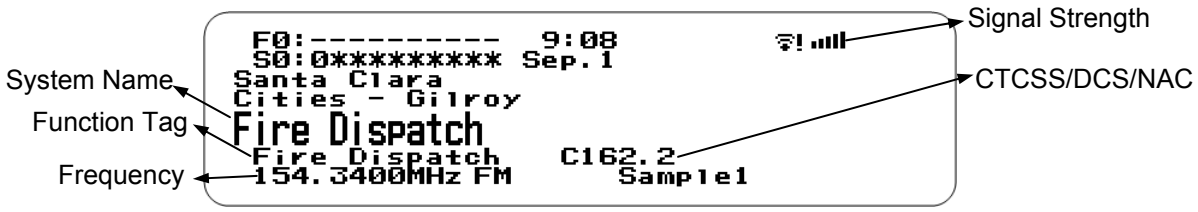


Figure 6-10 Signal Receiving

Scanner has 3 Hold Mode. System Hold, Department Hold and Channel Hold.

To make hold the scanner from Normal Mode, press [SYSTEM] / [DEPT] / [CHANNEL] key.

- Press [SYSTEM] key if user would like to System Hold from Scanning
- Press [DEPT] key if user would like to Department Hold from Scanning
- Press [CHANNEL] key if user would like to Channel Hold from Scanning

To make resume the scanner from Hold Mode, press [SYSTEM] / [DEPT] / [CHANNEL] key.

- Press [SYSTEM] key if user would like to resume from System Hold
- Press [DEPT] key if user would like to resume from Department Hold
- Press [CHANNEL] key if user would like to resume from Channel Hold

User can avoid System / Department / Channel.

Press [SYSTEM] / [DEPT] / [CHANNEL] key to avoid.

- Press [AVOID] key after pressing [SYSTEM] key within 2 seconds if user would like to avoid Indicated System
- Press [AVOID] key after pressing [DEPT] key within 2 seconds if user would like to avoid Indicated Department
- Press [AVOID] key after pressing [CHANNEL] key within 2 seconds if user would like to avoid Indicated Channel

User can select the 3 Line Display Mode On/ Off.

Press [Rotary / FUNC] + [9] key in Scan Hold mode, then the scanner change 3 Line Display Mode with Popup Message.
The default Setting of 3 Line Display Mode is “On”.

6.6.2. Startup Key Operation

The scanner can change the monitor status for each Favorites List when it turns on with pressing a numeric key.
First, the user sets Startup Key in Menu for each Favorites List.
The user can set plural key from 0 to 9 for each favorite.
If the user holds a number key while turning on the scanner, it displays the following message after displaying the opening message.

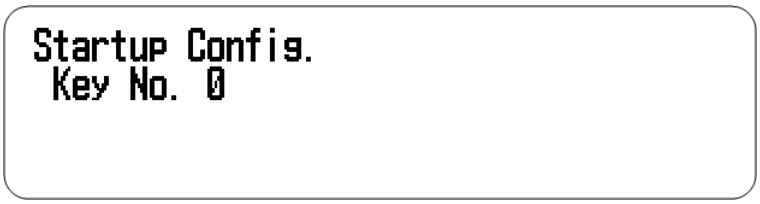


Figure 6-11 Startup Key 0

Favorites whose Startup Key matches the one the user presses are assigned on and favorites whose Startup Key do not match are assigned off.

6.6.3. Start Scanning

Whenever you press [Rotary / FUNC] + [SYSTEM] key to go to the Scan Mode the scanner scans systems that are not avoided and whose System quick key is enabled.
Then, the scanner scans all unavoided Custom Search Ranges (Search with Scan).
After Search with Scan, the scanner scans CC Hits System.

While scanning in Scan Mode, the scanner displays current scanning favorite name, system name, department name, and displays "**Scanning...**" (for conventional System) or "**ID Scanning...**", "**ID Searching...**" (for trunked System). The turned off Quick Key is displayed as “*”. And the Quick Key for the Current Favorite/System blinks.

When all channels are avoided directly or indirectly*, the scanner displays "Nothing to Scan" and the scanner stays in the Scan Mode.
*"A channel is avoided directly or indirectly" means:
1. The channel is avoided.
2. The department containing the Channel is avoided.
3. The system is avoided.
4. The Quick Key for systems to which that system belongs is disabled.

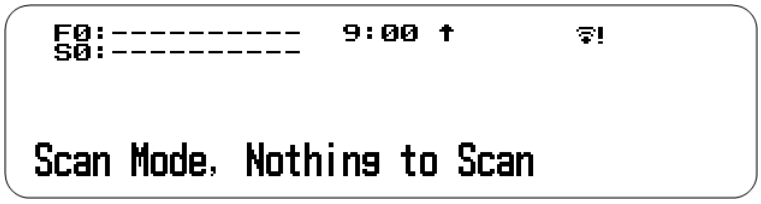


Figure 6-12 No Scanning List (3 Line Display Mode On)

If the Channels are unavoided by cancellation of above-mentioned state, the scanner will start scanning immediately.

6.6.4. Scanning Order

First, systems belonging to scan. Then systems that belong to Quick Key are scanned in order. Systems to which a Quick Key isn't set are scanned last.
The scanner searches Custom Search from range in turn.
After Custom Search ends, the scanner scans a system that is named "Close Call Hits*"
*This is a system where the scanner automatically stores the frequencies found by Close Call.

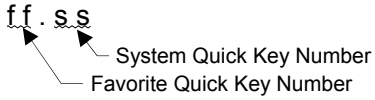
If "Close Call Hits" system has no frequencies, the scanner does not scan this system. After the scanner finishes scanning "Close Call Hits" system, the scanner scans from top system again.
You can change the scanning direction by turning [Rotary / FUNC] knob.
The scanning order of the systems belonging to the same Quick Key is the order registered to that Quick Key. The scanning order of the systems / sites belonging to no Quick Key is the order set to none.
When a system is created, the scanner automatically sets the Quick Key to none. So, if you do not change the Quick Key setting, the scanning order will be the order of system creation.
The scanning order of Channels in a conventional system's channel group depends in the order of Channel creation.
However, avoided or disabled items* are not scanned.
*Avoided or disabled items means assigned off Favorites List, avoided System, avoided Department, avoided Channels, disabled Favorite/System Quick Keys.

6.6.5. Scanning Operation

6.6.5.1. Quick Key Operation

In Conventional System, Quick Key is set for the system.
Enabled quick keys show their number. Disabled quick keys show "∗". Quick keys with no system assigned show "—".

Structure of Quick Key is as follows;



At First, user input Favorite Quick Key Number. Next, press [. no] key. And input System Quick Key Number. Then press [E yes] key. So, Status of Specified System is change ("0" to "∗").
Systems belonging to turn off Quick Key are not scanned. Then the Quick Key for Favorite / System that turn off displays "∗".

Figure 6-13 Favorite Quick Key Number

Figure 6-14 System Quick Key Number

During scanning, the user can turn On or Off a system by Quick Key with [1] - [9], [0] key.

*It cannot turn on the Quick Key that has no Favorite or System.

*The displayed Quick Key for system shows the turned on its current scanning system.

For example, the scanner displays as follows if the turned off Quick Keys are “3”, “4”, “6”, and “9”. System 01 turn Off by Quick Key.

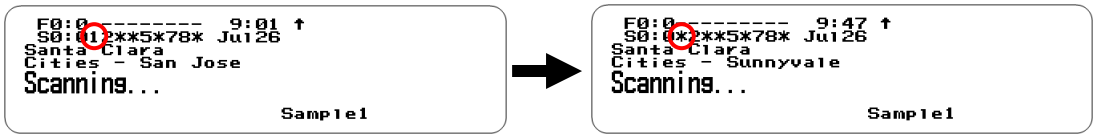


Figure 6-15 System 01 turn Off

The details of scanning depend on whether the System is a conventional System or a trunked System.
Change to Quick Key input screen when [. no] or numeric key is pressed.

Figure 6-16 Quick Key Input [. no] key

If user press [. no] key, then scanner selects the current Favorite List.

6.6.5.2. Scan for Trunked Systems

In trunked Scanning, the scanner holds on the control channel (C-Ch) and decodes the TGID as they become active.

While scanning, press [E yes] key in Function Mode toggles ID Scan and ID Search alternately. The user also can change this mode by Menu operation.

ID Search :
If a TGID does not match any avoided TGID, the scanner goes to the V-Ch and monitors the transmission until it ends.

ID Scan :
If a TGID matches a TGID stored in an unavoided channel, the scanner goes to the V-Ch and monitors the transmission until it ends.

While monitoring the TGID already stored into the Memory, displays current channel name, Favorites List name, System name and Department name. And the numbers of Quick Key for current monitoring Favorites List and System blinks.
While monitoring the TGID not stored into the Memory, displays current site name, and monitoring TGID. And the number of Quick Key for current monitoring Favorites List and System blinks.

While monitoring the TGID:
Turn [Rotary / FUNC] knob to return to the C-Ch. Then it waits for a moment on the C-Ch for finding other TGID. If the scanner finds other one, it monitors found TGID. But there is only the TGID that was being monitored just before, it monitors that TGID again.
Press [AVOID] key to avoid the TGID and store this TGID to the list of ID Avoids of the system. This avoid information is common to every System. Then the scanner returns to the C-Ch.
If the transmission ends, it returns to the C-Ch and exclusively listens for the last-active TGID until the system delay time expires.

If it exceeds the system delay time, the scanner checks to see if the System Hold time has elapsed. If so, the scanner advances to the next System. If Sysytem Hold Time has not elapsed, the scanner continues to monitor the C-Ch for TGID activity.

Avoid Operation
The user can avoid for each Site and System.

In Trunked Systems, one system can have some sites and those sites can share the same TalkGroup ID.
If the user avoided a TGID, it means the TGID is avoided for all site in the system.

6.6.5.2.1. ID Display Format

The scanner displays received ID as following format on second line.

Normal ID
The scanner displays as "TGID:xxxx" for no-named TGID.
(xxxx: The format of each type.)

Example)

MOT Type I ID	: TGID:101-1	
MOT Type II	: TGID:12345	(Decimal Format)
	: TGID:123h	(Hexadecimal Format)
P25 ID	: TGID:12345	(Decimal Format)
	: TGID:1234h	(Hexadecimal Format)
EDACS	: TGID:01-023	(AFS Format)
	: TGID:147	(Decimal Format)
LTR	: TGID:0-20-254	

I-Call
The scanner displays ID as "TGID:xxxxxx" for no-named TGID. In order to show that ID is I-Call, "i" is displayed on the left end of ID.

Example)

MOT Type I I-Call	: TGID:i12345	
MOT Type II	: TGID:i12345	(Decimal Format)
	: TGID:i1234h	(Hexadecimal Format)
P25 I-Call	: TGID:i12345678	(Decimal Format)
	: TGID:i123456h	(Hexadecimal Format)
EDACS I-Call	: TGID:i12345	

I-Call wild card (i0)
The scanner will display received I-Call for wild card.

Example)

I-Call wild card	: TGID:i0	(while scanning)
	TGID:i123456	(when it receives a ID)

MOT Individual Call
The scanner displays both IDs under communication as "TGID:xxxxxx-yyyyyy".
In order to show that IDs are Individual Call, "i" is displayed on the left end of IDs.

Example)

MOT Type I Individual Call	: TGID:i12345-i23456	
MOT Type II	: TGID:i12345-i23456	(Decimal Format)
	: TGID:i1234h-i2345h	(Hexadecimal Format)
P25 Individual Call	: TGID:i12345678 SRC TGID:i23456789 DST	(Decimal Format)
	: TGID:i123456h SRC : TGID:i234567h DST	(Hexadecimal Format)

*If the left side ID is already named, the scanner only displays that ID's name.
*The scanner alternately displays TGID:XXXXXXXX SRC(or TGID:XXXXXXh SRC) and TGID:YYYYYYYY DST(or TGID:YYYYYYh DST) when P25 individual call.

PATCH ID
The scanner displays one of PATCH list IDs and received PATCH ID as "TGID:xx-xxx yy-yyy".
(xx-xxx : The one of PATCH list IDs, yy-yyy: received PATCH ID)

Example)

EDACS PATCH ID	: TGID:01-012 00-002
MOT Type II	: TGID:42000 42016

*If the first PATCH list ID is already named, the scanner only displays that ID's name.

PARTIAL ID
The scanner displays the wild card portion of a PARTIAL ID as "-" in ID scanning.
When the scanner finds the ID that matches the PARTIAL ID, it displays received ID.

Example)

PARTIAL ID	: TGID:01-01-	(while scanning)
	TGID:01-015	(when it receives a ID)

6.6.6. Location Based Scan

This operation controls avoid state for each department or site when the scanner is connecting GPS unit. This works automatically by receiving the location data from GPS.

Figure 6-17 Receiving data from GPS unit

6.6.7. Temporary System Hold

*While it is in Temporary System Hold state, Priority Scan and Close Call function are not performed.

The scanner make stop Scanning while reversing display by pressing [SYSTEM] key.
This state is called "Temporary System Hold".
This state maintains for 2 seconds.

When the user selected a system while the scanner is Temporary System Hold, the scanner scans only the selected system.

6.6.8. Temporary Department Hold

The scanner make stop Scanning while reversing display by pressing [DEPT] key.
This state is called "Temporary Department Hold".
This state maintains for 2 seconds.

User can select a department while the scanner is Temporary Department Hold.

6.6.9. System Hold

Press [SYSTEM] key to goes to System Hold Mode.
While System Hold, the scanner scans only one system and scanner turn on **HOLD** icon.

Figure 6-18 System Hold

Press [SYSTEM] key to system scan, and other keys would work normally.
If it cannot scan the selected system, the scanner can't go to System Hold Mode.

In Temporary System Hold, press [AVOID] key once to temporarily avoid a current system with "**Temporary Avoid**" message.
In Temporary System Hold, press [AVOID] key twice in a second to permanently avoid the current system with "**Permanent Avoid**" message.

Figure 6-19 Temporary Avoid

6.6.10. Department Hold

Press [DEPT] key to goes to Department Hold Mode.
While Department Hold, the scanner scans only one department and scanner turn on **HOLD** icon.

Press [DEPT] key to department scan, and other keys would work normally.

6.6.11. Quick System Select

Turn [Rotary / FUNC] knob after pressing [SYSTEM] key within 2 seconds to select a System.
During selecting systems, scanning is not performed.
The user can select from all Systems that have 1 or more Channels. A System belonging to turn off Quick Key disappears in this selection.
When no operation lasts 2 seconds, returns to the previous mode.

6.6.12. Unit ID of TGID

Unit ID of TGID is transmitted at the beginning of a conversation. Unit ID is used in Motorola, EDACS (WIDE/NARROW) and APCO P25 Standard, P25 One-Freq system.

When “Disp. Unit ID” menu is On, if the scanner receives a Unit ID, the scanner displays “UID:xxx”. XXX means I-CALL ID.

6.6.13. Key Operation During Scan Mode

Refer to APPENDIX “Key Action List”. (UB375Z_KeyActionList_V0_15.pdf)

6.7. SCAN HOLD MODE

Press [CHANNEL] key in Scan Mode to go to Scan Hold Mode.

6.7.1. Display while Scan Hold Mode

The LCD display in Scan Hold mode is as follows.

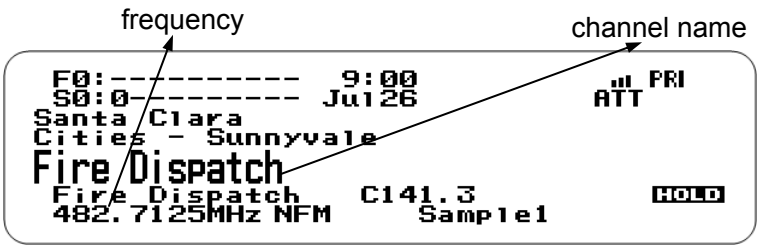


Figure 6-20 Scan Hold

C162.2 : This appears when the channel has a CTCSS or DCS. In CTCSS/DCS Search Mode or in All mode of Audio Type, if this is hit, the value blinks. If CTCSS/DCS is set to lockout, the display alternates between the CTCSS/DCS data and "*******". In P25 NAC Search Mode, if a P25 NAC code is found, it will also be displayed in this area.

HOLD : This icon appears while in Scan Hold Mode.

FM : These icons show the modulation type.

ATT : This icon appears when the channel is set to “Attenuator On”.

Fx: : This icon appears with icons of Quick Key number for Favorites List (from “0” to “99”). x shows current ten’s place of Quick Key for Favorites List.

Sx: : This icon appears with icons of Quick Key number for Systems (from “0” to “99”). x shows current ten’s place of Quick Key for System.

6.7.2. General Operation

Turn [Rotary / FUNC] knob to select the channel, trunk frequency, TGID or search frequency.

Hold on a Channel in Conventional System:

The scanner displays System, Department name and Channel name. The Quick Key for Favorites List assigned the Favorites List and the Quick Key for system assigned the System that the channel belongs to is displayed. And the scanner monitors selected channel continuously.

Press [Rotary / FUNC] knob to go to Function Mode and display the Favorites List Number Tag, System Number Tag, Channel Number Tag.

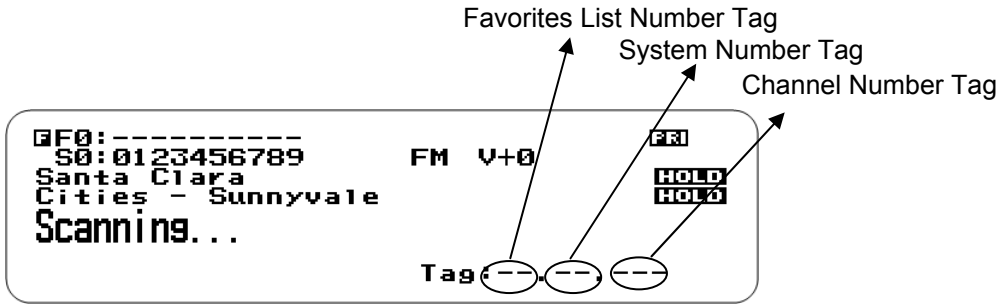


Figure 6-21

Press [9 / DISP] key in Function Mode to change the Display Line at Scan Mode.
The scanner in 3 Line Display can displays the System name, Department name, Channel name with the large font.

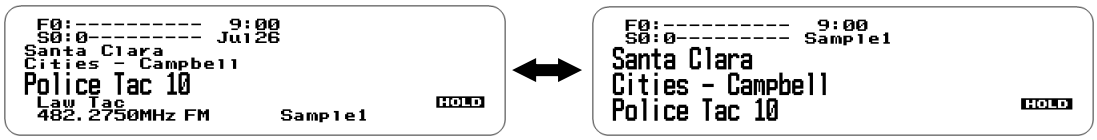


Figure 6-22 3 Line Display

Hold on a Channel (TGID) in Trunked System
*If there are two or more sites in the system, same TGID will appear in each site. And the scanner checks frequencies of current site for selected TGID.

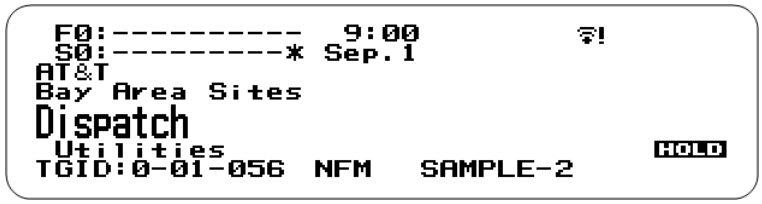


Figure 6-23

Hold on Search Frequency
The scanner displays “Search with Scan”, System name, Department name and holding frequency in Search Hold.

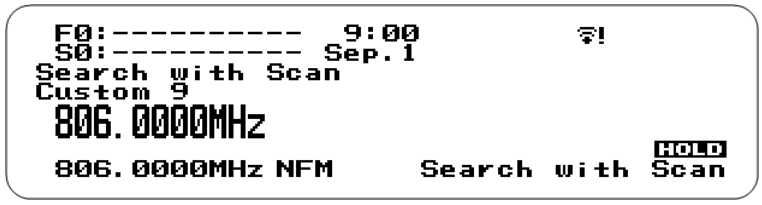


Figure 6-24

6.7.3. Site Hold on Trunked System

This feature is that the scanner works ID Scan or ID Search in a specified site.
To set Site Hold, user press [Rotary / FUNC] + [DEPT] key while a specified site. Then indicates **HOLD** icon and indicates a site name.

Figure 6-25 Site Hold

6.7.4. Hold on Conventional System

Turn [Rotary / FUNC] knob clockwise to select next channel.
Turn [Rotary / FUNC] knob counterclockwise to select previous channel.
If the user turns [Rotary / FUNC] knob clockwise when it holds on last channel in the system, it goes to next system. If the user turns [Rotary / FUNC] knob counterclockwise when it holds on first channel in the system, it goes to previous system.

6.7.5. Hold on Trunked System

Turn [Rotary / FUNC] knob to select the channel (TGID).
Turn [Rotary / FUNC] knob clockwise to select next one and turn [Rotary / FUNC] knob counterclockwise to select previous one.
If the user turns [Rotary / FUNC] knob clockwise when it holds on last channel, it goes to next system or channel.

When it holds on a channel, the scanner displays a setting TGID. It does not go to any voice channel. And it cannot avoid the displayed TGID.

6.7.6. Hold on TalkGroup ID from ID Search / ID Scan

The scanner monitors the held TGID continuously.

While monitoring the TGID already stored into the Memory, displays Favorites List Name, System Name, Department Name, Channel Name and TGID.
And the numbers of Quick Key for current monitoring Favorites List and System appears.
While monitoring the TGID not stored into the Memory with ID Search, displays Favorites List Name, System Name, Department Name, Channel Name and monitoring TGID.
And the numbers of Quick Key for current monitoring Favorites List and System appears.

Press [CHANNEL] key to resume ID Search or ID Scan.

6.7.7. Change Site Avoid Condition

User can set easily On/Off for Site Avoid Condition.

<u>In a Trunked System,</u>
1. Press [Rotary / FUNC] key then [DEPT] key goes to Site Hold mode.

<u>In Site Hold mode,</u>
2. Press [DEPT] key then [AVOID] → Toggle Site avoid condition On/Off
3. Press [DEPT] key then [Rotary / FUNC] knob → Rotate all sites in the system.
4. Press [Rotary / FUNC] key then [DEPT] key to exit Site Hold mode.

Note: User can set also On/Off for Site Avoid Condition with Menu.

6.7.8. Direct Entry

*The scanner receives nothing in this mode.

The user can store quickly a frequency or a TGID by [0] - [9] key and [. no] key. And the user can direct access that you want to input number tag.

6.7.8.1. Store Frequency

*In this operation, a frequency cannot store to trunked System.

To quickly store a frequency into a channel for conventional system, the user enters the frequency including the decimal point using the keypad, then presses [E yes] key. The scanner prompts "Quick Freq Save?".

*If the user presses [SYSTEM] / [DEPT] / [CHANNEL] key without pressing [E yes] key, the scanner goes to Quick Search Hold Mode at the entered frequency. (See: *6.11.2. Go to Quick Search Hold Directly*)

6.7.8.2. Store TGID

To quickly store a TGID into a channel, the user enters the TGID using numeric key and decimal key. Then press [E yes] key, the scanner prompts "**Quick TGID Save?**".

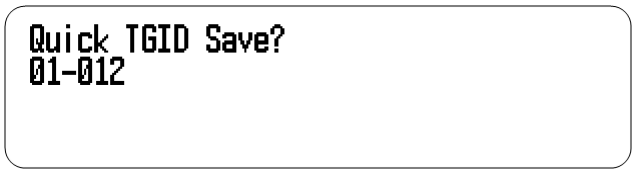


Figure 6-26 Store TGID

If the user press [AVOID] key without pressing [E yes] key, the scanner goes to ID Search Hold Mode directly and the TGID is not stored. When the user inputs illegal ID, the scanner displays "**Bad TGID Press Any Key**" and sounds error tone.

If the user presses [E yes] key, the scanner creates "**Quick Save Department**" at the current system and stores this data there.
If the user presses [. no] key, the user can select a system to store this data.
The user selects the system* and the department. And this data is stored.

*In system selection, the scanner displays only the system whose inputted ID format matched. The ID format and system type relation are shown to the following.

Table 6-1

Input TGID (n: number)	System Type
nnn-nn nnnn-n n- nnn- nnnn- nnn-n nnnnn	Motorola Systems (Type I, Type II)
nnnnn	P25 Systems
nn-nnn nn- nn-nn-	EDACS Systems *Only AFS Format is allowed for Direct Entry except for I-Call ID.
n-nn-nnn n-nn-	LTR Systems

*For details of TGID, please see: *7.2. TGID FORMAT FOR TRUNKED SYSTEM*.

Once saved, the scanner allows the user to change the Channel settings at menu location "Edit Channel". Press [SYSTEM] / [DEPT] / [CHANNEL] key to go to ID Scan Hold and the scanner tries to acquire the Control Channel for current site or first site of the System. If successful, it then holds on the stored Channel. Otherwise, it displays "**Finding CtrlChan**" (and Channel Name).

6.7.8.3. Direct Access

Use this feature to quickly access a channel with number tags. A favorite, system or channel number tags can be set in the menu. However, if user set a channel number tag that has already existed in the same system, or user set a system tag that has already existed in other systems (include scan system), then a warning message will be displayed "**Number Tag Exists Accept? (Y/N)**". User press [E yes] key to set the same number tag, or press [. no] key to input a new number tag.
To jump to a tagged channel from HOLD mode, enter the favorite number tag, the system number tag and the channel number tag with decimal point, then press [CHANNEL] key, the scanner goes to Scan Hold Mode at the entered number tag.

For example
If user wants to select Channel C, press [1] [. no] [3] [. no] [1] [0] [CHANNEL].

Favorite A (Number tag = 1)	System A (Number tag = 3)	Channel A (Number tag = 1)
		Channel B (Number tag = 5)
		Channel C (Number tag = 10)
	System B (Number tag = 5)	Channel D (Number tag = 10)
		Channel E (Number tag = 5)
		Channel F (Number tag = 1)

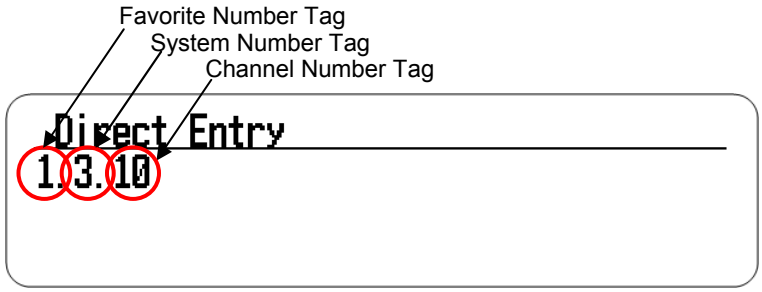


Figure 6-27 Enter Number Tag

User does not have to enter the favorite and the system number tag to select a channel in the current favorite.
When the scanner is holding on System A of Favorite A, press [. no] [. no] [1] [0] [CHANNEL] to select Channel C.
If user press only favorite and system number tag with decimal point, the scanner select the first channel of the system. Pressing [1] [. no] [5] [. no] [CHANNEL], Channel D is selected.
If no such system number tag exist, the scanner sounds error tone and displays as follows;

Figure 6-28

When the user inputs illegal channel number tag, the scanner displays **"CH Number Tag XXX.XXX is not Stored Press Any Key"** and sounds error tone.

6.7.9. Key Operation During Scan Hold Mode

Refer to APPENDIX "Key Action List". (UB375Z_KeyActionList_V0_15.pdf)

6.8. PRIORITY SCAN

There are two kinds of Priority Scan.

6.8.1. Priority Scan

This works in Scan Mode or Scan Hold Mode when the Priority Scan setting is on. In this condition, " **PRI**" icon appears.

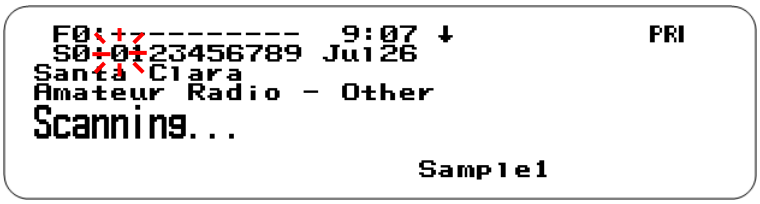


Figure 6-29

When the scanner is scanning a conventional system, it interrupts every interval time to check Priority Channels (P-Ch) of all unavoided conventional Systems for activity. If there are many P-Chs, Priority Scan interrupts normal scanning for a long time.
Although any conventional frequency is set as a priority channel, the scanner is unable to scan over 100 channels at once. If unavoided priority channels are over 100, the first 100 channels will be scanned for priority scanning but others won't.
User can change max priority channel.
The priority of P-Chs applies to Quick Key for System.
The highest priority is P-Ch to which Quick Key for System belongs to "0". And the lowest priority is its to which Quick Key for System belongs to "99".
The priority of P-Ch in the group follows the turn that creates the channel.

If there is no priority Channel or all Priority Channels are avoided, the scanner displays "Priority Scan No Channel" and sounds Error Tone. The scanner cannot work the Priority Scan. Then the scanner restarts normal scanning by pressing any key. And the setting of Priority Scan is set to off automatically.

Figure 6-30

6.8.2. Key Operation During Priority Scan

Key operations are same as Scan Mode and Scan Hold Mode.
See: *6.6.13. Key Operation During Scan Mode* and *6.7.9. Key Operation During Scan Hold Mode*.

6.9. PRIORITY ID SCAN

6.9.1. Priority ID Scan

Priority ID Scan works in ID Scan/Search Mode or ID Scan/Search Hold Mode when the Priority ID Scan setting is on.
This works on the Motorola and EDACS (Wide, Narrow), LTR, P25 Standard systems.
This function is very similar to conventional priority although there is no “interrupt” during the transmission. Priorities are checked in between transmissions.
The scanner can receive the priority ID when trunking ID delay condition.

NOTE: Motorola system can receive priority ID while scanner is staying V-Ch.

The scanner is scanning unavoided priority IDs.
The priority of P-IDs applies to Quick Key for System.
The highest priority is P-ID to which Quick Key for System belongs to "0".
And the lowest priority is P-ID to which Quick Key for System belongs to “99”.

6.9.2. Key Operation During Priority ID Scan

Key operations are same as ID Scan Mode and ID Scan Hold Mode.
See: *6.6.13 Key Operation During Scan* Mode and *6.7.9 Key Operation During Scan Hold Mode*.

6.10. SEARCH MODE

There are Custom Search and Quick Search in Search Mode.

6.10.1. Display while Search Mode

The LCD display in Search mode is as follows.

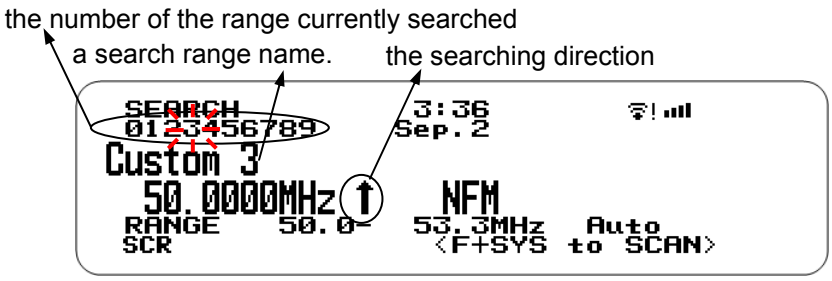


Figure 6-31

NFM : These icons show the modulation type.
SCR : This icon appears when one or more Broadcast Screen Band is set to On.
: This icon shows strength of the signal from 0 to 5.

6.10.2. General Operation

Press [SYSTEM] / [DEPT] / [CHANNEL] key to go to Search Hold Mode with current frequency.

6.10.3. Custom Search

In this searching, the user can turn on or off custom range number by [0] - [9] key. But it cannot turn off the last one Custom Range. If try it, the scanner sounds Error Tone. The scanner only searches turned on custom ranges. And searching range number blinks.

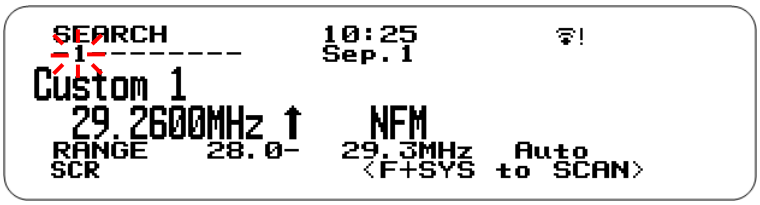


Figure 6-32

At first, it starts from lowest frequency of the turned on range of the minimum number in ascending order. Or, it starts from highest frequency of the turned on range of the maximum number in descending order. While searching, turn [Rotary / FUNC] knob to change searching direction.

If the scanner finds a transmission, it stops on the frequency and displays the frequency.
While monitoring the transmission, turning [Rotary / FUNC] knob to resume searching.
Press [AVOID] key once to avoid the frequency temporarily. The scanner displays "**Temporary Avoid**".
Press this key twice in a second to avoid the frequency permanently. The scanner displays "**Permanent Avoid**".
Then resume searching from the next frequency.

If the user turns off current searching or monitoring range number, the scanner searches from next range.

The scanner stays on the frequency until the delay time expires even if the transmission ends.

When the scanner enters to Custom Search by select "Custom Search" at Menu, frequency is initialized and it starts searching. When the searching direction is ascending order, the scanner searches from lowest frequency of the turned on Range of the minimum number. When the searching direction is descending order, the scanner searches from highest frequency of the turned on Range of the maximum number.

When the scanner returns to Custom Search by cancel Menu Mode, the scanner will resume searching from previous frequency with previous direction.
However, if the limit settings of one of Custom Ranges are changed and previous frequency becomes out of limit, it searches from lowest frequency of previous Range for ascending order or from highest frequency of previous Range for descending order.

Custom Search Temporary Hold :
The scanner searches only for selected range after pressing [SYSTEM] / [DEPT] key within 2 seconds.
And when the scanner return to Normal Mode, it searches for all range.

Custom Search Range Select :
The user can select the range by turning [Rotary / FUNC] knob after pressing [SYSTEM] / [DEPT] key within 2 seconds to select the range.
When the scanner returns to Normal Mode, it searches from the selected range.
If the user selects a range that turned off, the scanner turns on the range and starts searching from the range.

6.10.4. Quick Search

Quick Search searches all band coverage.
The user can start Quick Search by pressing [E yes] key in Function Mode during Scan Mode, Close Call, Custom Search, Weather Scan Mode and Tone-Out Mode, the scanner prompts the user with "Quick Search?".

If the user presses [E yes] key, the scanner starts Quick Search.
If the user presses [. no] key, the scanner goes to Menu Mode about searching at “Search for...”.
If the user presses [SYSTEM] / [DEPT] / [CHANNEL] key, the scanner goes directly to Quick Search Hold Mode.
Pressing [AVOID] key cancels the prompt and it returns to previous mode.

6.10.4.1. Quick Search for frequency

The scanner searches from the current channel frequency when the Quick Search starts from monitoring / holding conventional systems, Custom Search etc, Close Call Mode, Weather Scan Mode and Tone-Out Mode.
The range of this searching is all range of the scanner.
Turn [Rotary / FUNC] knob to change the searching direction.

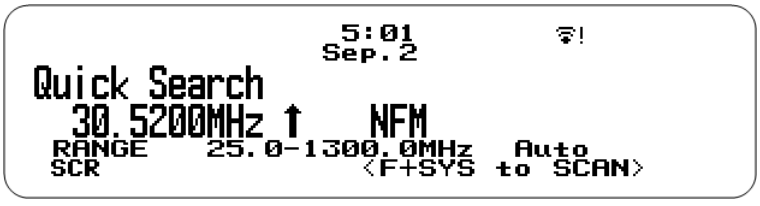


Figure 6-33

If the scanner finds a transmission, it stops on the frequency and second line displays the frequency.

While monitoring the frequency, press [SYSTEM] / [DEPT] / [CHANNEL] key to make Hold Mode.
While monitoring the frequency, turning [Rotary / FUNC] knob to resume searching.
Press [AVOID] key once to avoid the frequency temporarily. The scanner displays "**Temporary Avoid**".

Press this key twice in a second to avoid the frequency permanently. The scanner displays "**Permanent Avoid**".
Then resume searching from the next frequency.

6.10.5. Key Operation During Search Mode

Refer to APPENDIX "Key Action List". (UB375Z_KeyActionList_V0_15.pdf)

6.11. SEARCH HOLD MODE

Press [SYSTEM] / [DEPT] / [CHANNEL] key in Search Mode to go to Search Hold Mode and the scanner holds on the current frequency.

6.11.1. General Operation

The scanner monitors the frequency continuously.

In Quick Search Hold Mode, the scanner displays as follows;

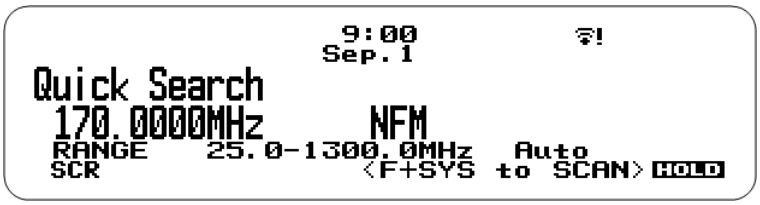


Figure 6-34

Turn [Rotary / FUNC] knob to select the frequency.
Press [AVOID] key once to avoid the frequency temporarily. The scanner displays "**Temporary Avoid**".
Press this key twice in a second to avoid the frequency permanently. The scanner displays "**Permanent Avoid**".
Press [AVOID] key on the avoided frequency to unavoid it. The scanner displays "**Stop Avoiding**".
Long press [AVOID] key to unavoid all frequency of search.
Press [SYSTEM] / [DEPT] / [CHANNEL] key to restart searching.

6.11.2. Go to Quick Search Hold Directly

When the scanner holds on in any Hold Mode, the user can go to Quick Search Hold Mode directly.

The user inputs a frequency by [0] - [9] key and [. no] key. And presses [SYSTEM] / [DEPT] / [CHANNEL] key.
Then the scanner goes to Quick Search Hold Mode directly with the inputting frequency.
By this feature, the user can monitor any frequency quickly.

6.11.3. Direct Entry

Enter the frequency or TGID by pressing numeric keys and decimal key, then press [E yes] key to store entered data quickly.

6.11.4. Key Operation During Search Hold Mode

Refer to APPENDIX "Key Action List". (UB375Z_KeyActionList_V0_15.pdf)

6.12. CLOSE CALL MODE

The basic Close Call feature allows the scanner to immediately lock onto a transmission above threshold signal strength.
The way the scanner treats a Close Call is based on settings of the menu at Srch/CloCall Opt and Close Call

6.12.1. Display while Close Call Mode

Figure 6-35

: This icon indicates when the Close Call Mode is “CC Priority”.

: This icon indicates when the Close Call Mode is “CC DND”.

6.12.2. Close Call Search

*Close Call function does not work while it is in Temporary Hold or System Select of Scan Mode, one of Weather Scan Mode and Tone-Out Mode.

**While the scanner is staying on repeater frequency or reverse frequency, it does not prompt any new found Close Call.

The scanner checks Close Call transmission while scanning or searching every 2 seconds.
If Close Call frequency is found, the scanner alerts the user according to the setting of Set CC Alert.

CC DND is set:
The scanner does not operate this function during receiving channel or frequency.
“DND” means “Do Not Disturb”.

CC Priority is set:
The scanner operates this function regardless of receiving signal or not.

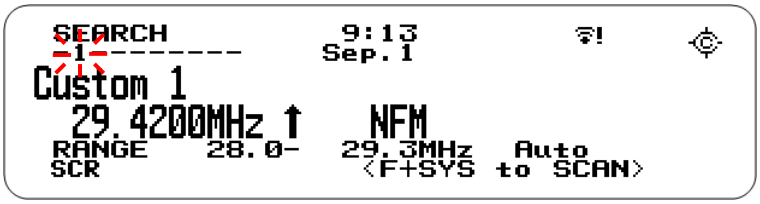


Figure 6-36

Turning [Rotary / FUNC] knob to ignore the Close Call and return to previous state.
Press [SYSTEM] / [DEPT] / [CHANNEL] key to go to Close Call Hold Mode of the frequency.
Press other keys to listen the detected frequency.

Monitoring Close Call Transmission:
While monitoring Close Call transmission, the scanner displays "Close Call" and monitoring frequency on LCD. The modulation is also displayed.
For example, if the scanner finds a transmission on 462.7125 MHz, it displays as follows.

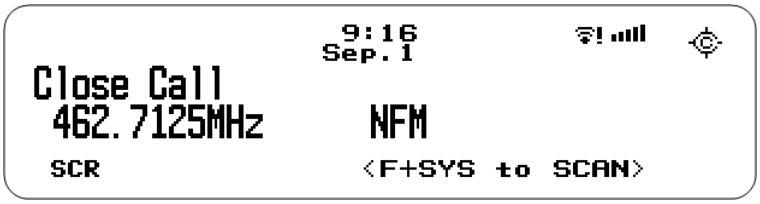


Figure 6-37

In this monitoring condition, the scanner does not check other Close Call transmission.
Press [SYSTEM] / [DEPT] / [CHANNEL] key while monitoring condition to go to Close Call Hold.
Turning [Rotary / FUNC] knob to cancel the monitoring condition. Then the scanner checks valid CC Bands from next one to 800MHz+ Band. If it finds Close Call transmission, the scanner informs again. Otherwise, it returns to previous mode.
Press [AVOID] key once to avoid the frequency temporarily. The scanner displays "**Temporary Avoid**".
Press this key twice in a second to avoid the frequency permanently. The scanner displays "**Permanent Avoid**".
Then resume searching from the next frequency.

The scanner stays on the frequency until the Delay time expires even if the transmission ends. Then the scanner checks valid CC Bands from next one to 800MHz+ Band. If it finds Close Call transmission, the scanner informs again. Otherwise, it returns to previous mode.

If all the bands are set to Off at "Set CC Bands", the scanner does not check any Close Call transmission. If so, the scanner displays "Close Call" and "All Band Off!" and sounds Error Tone when it tries to perform the Close Call function.
Then the scanner sets CC Mode to Off of "Set CC Mode"

Figure 6-38

The scanner stays at this state.
In this state, press any key to turn all the close call bands on.

6.12.3. Close Call Only

The scanner performs this by menu at ″Close Call Only″. Or, long press SQ knob to perform this quickly.
The scanner only tries to find a Close Call transmission.
The scanner will be displayed "Close Call", and the close call meter that indicates the transmission signal level of each band will be shown on LCD.
Or if Attenuation, Broadcast Screen or Repeater Find settings of Srch/CloCall Opt are on, each icon is displayed.

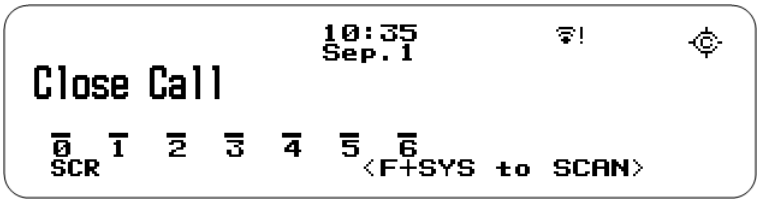


Figure 6-39

If the scanner has already received Close Call and the user press [SYSTEM] / [DEPT] / [CHANNEL] key, the scanner holds on latest Close Call hit frequency. Or if it has not hit Close Call yet, it is ignored and sounds Error Tone.
Press numeric key from [0] key to [6] key to switch each band on or off which also can be done in menu "Set CC Bands".
If the scanner found a Close Call transmission, the scanner informs the user of "CC Found!" and "Press Any Key".

Figure 6-40

Press any key to see found frequency. And user can listen found Close Call.

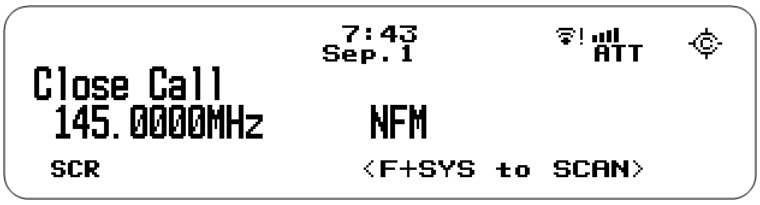


Figure 6-41

Press [SYSTEM] / [DEPT] / [CHANNEL] key to go to Close Call Hold Mode.
In Close Call Only Mode, press [MENU] key in Function Mode to go to Menu of Close Call at "Close Call".

Monitoring Close Call Transmission:
In this monitoring state, the scanner does not check other Close Call transmission.
Press [SYSTEM] / [DEPT] / [CHANNEL] key while monitoring condition to go to Close Call Hold.

While the scanner is monitoring the transmission, turning [Rotary / FUNC] knob to resume searching Close Call.

If all the bands are Off at "Set CC Bands", the scanner cannot check any Close Call transmission. If so, the scanner displays "**All Band Off!**" and sounds Error Tone. In this state, press any key to turn all the close call bands on.

6.12.4. Close Call Hold

In Close Call Hold state, the scanner holds on the current Close Call hit frequency even if the transmission ends.
The scanner displays **HOLD** icon and the holding frequency. The modulation is displayed.
For example, if the scanner finds a transmission on 433.0000 MHz, it displays as follows.

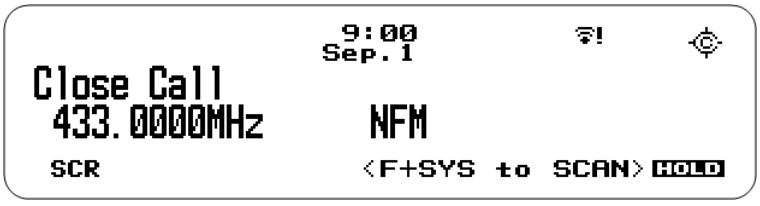


Figure 6-42

In this condition, the scanner does not check other Close Call transmission.

While it holds on a frequency, turning [Rotary / FUNC] knob goes to Quick Search Hold with the holding frequency. And Close Call Mode will be set to off.

Press [SYSTEM] / [DEPT] / [CHANNEL] key to return to the previous state*. If Close Call transmission is found again, the scanner informs again.

*Previous state is one of these modes: Scan Mode, Scan Hold Mode, each Search Mode, each Search Hold Mode, Close Call Only Mode.

6.12.5. CC Bands

This setting controls the band filtering used during Close Call operation.
The user can turn on or off the following bands.

VHF Low 1	**:**	On/Off	**:**	25.0000	-	53.9800 MHz
VHF Low 2	**:**	On/Off	**:**	54.0000	-	107.9000 MHz
Air Band	**:**	On/Off	**:**	108.0000	-	136.9916 MHz
VHF High 1	**:**	On/Off	**:**	137.0000	-	224.9800 MHz
VHF High 2	**:**	On/Off	**:**	225.0000	-	319.9750 MHz
UHF	**:**	On/Off	**:**	320.0000	-	512.0000 MHz
800MHz+	**:**	On/Off	**:**	758.0000	-	823.9875 MHz
				849.0125	-	868.9875 MHz
				894.0125	-	960.0000 MHz
				1240.0000	-	1300.0000 MHz

On The scanner check Close Call in this Band.
Off The scanner does not check this Band.

6.12.6. Key Operation During Close Call Only Mode

Refer to APPENDIX “Key Action List”. (UB375Z_KeyActionList_V0_15.pdf)

6.13. WEATHER SCAN MODE

User can start scanning for 7 Weather Channels by menu operation. Another operation is that press and hold [6 / WX] key in function mode starts this mode quickly from other hold modes.

The scanner scans for 7 Weather Channels normally, or alerts when a 1050 Hz Weather Alert Tone or a SAME Weather Alert is broadcast on a Weather Channel.

It cannot avoid any Weather Channel.

*Close Call function does not work while it is in one of Weather Scan Mode even if "Set CC Mode" is “CC DND” or “CC Priority”.

6.13.1. Normal Weather Scan

The scanner starts this when the user selects **Weather Scan** in Menu Mode at “WX Operation”.
The scanner scans 7 Weather Channels normally.

Figure 6-43

When it finds a broadcast, it stops on the Channel.

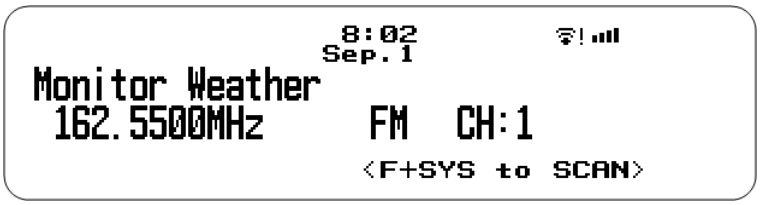


Figure 6-44

If the signal is lost, the scanner resumes scanning for Weather Channels.
While this scanning, the scanner does not pay attention to 1050 Hz Weather Alert Tone and SAME Weather Alert.

6.13.2. Weather Alert Scan

The scanner starts this when the user selects one of Weather Alert function in Menu Mode at “Weather Alert”.
The scanner scans 7 Weather Channels and alerts when it detects a 1050 Hz Weather Alert Tone or a SAME Weather Alert.

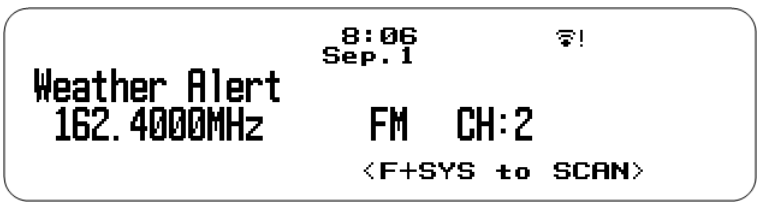


Figure 6-45

If it is set to **Alert Only**, the scanner immediately sounds a Weather Alert Siren (for Weather Alert Tone) and displays "**Warning WX**" and "**WX Alert**" when it detects the 1050 Hz Weather

Alert Tone. This Siren sounds as long as 1050 Hz Weather Alert Tone is broadcasted, or pressing any key to stop the Siren. Then opens squelch and remains on the Weather Channel.
If the user presses any key, the scanner becomes WX Scan Hold Mode and releases the mute.

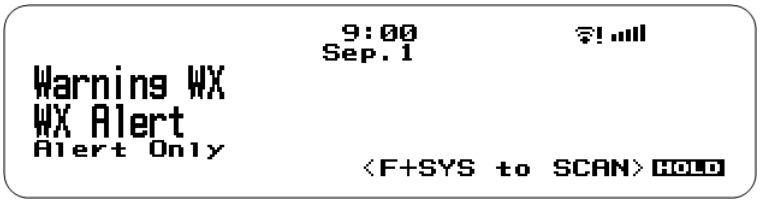


Figure 6-46

If it is set to one of SAME Groups, the scanner attempts to decode the SAME data packets that precede the Alert Tone. Then the scanner sounds a Weather Alert Siren (for Warning, Watch or Advisory) when received County is the same as the programmed data. The scanner displays warning level as "**Warning WX**", "**Watch WX**" or "**Advisory WX**" and it displays decoded Event Code. (See: *7.10. CEA2009-SAME EVENT CODE* for displayed characters)
The user presses any key, the scanner becomes Weather Scan Hold Mode and releases the mute and remains on the Weather Channel.
If the scanner decodes the EOM (= End of Message) in Weather Alert Scan Mode, it returns to mute condition. However if the scanner is already in Weather Scan Hold Mode, it will not mute by decoding the EOM.

For example, the scanner displays as follows when it decodes the SAME data that has an Event Code of "EAN".

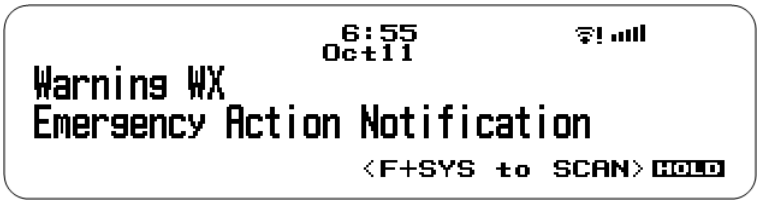


Figure 6-47

If it is set to **All FIPS**, the scanner sounds a Weather Alert Siren (for Warning, Watch or Advisory) when it decodes the SAME data packets that precede the Alert Tone. It displays warning level and Event Code.
Then opens squelch and remains on the Weather Channel.

*When the scanner detects the SAME data, it sounds each Weather Alert Siren for a maximum of 8 seconds. But the user can suspend the siren by pressing any key.
*When the scanner detects the 1050 Hz Weather Alert Tone, it sounds Weather Alert Siren as long as 1050 Hz Weather Alert Tone is broadcasted, or press any key to stop the Siren.

6.13.3. Weather (Alert) Scan Hold

Press [SYSTEM] / [DEPT] / [CHANNEL] key during Weather (Alert) Scan to hold on the current Weather Channel.
The scanner displays **HOLD** icon and displays “WX Scan” or “ WX Alert”, and it displays Channel Number and frequency.
Then the scanner checks only the Channel.

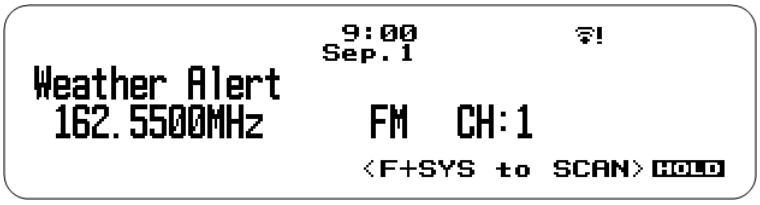


Figure 6-48

The scanner does not sound until it detects the 1050 Hz Weather Alert Tone or decodes the SAME data in Weather Alert Scan Hold. See: *6.13.2. Weather Alert Scan* for operation when it detects the 1050 Hz Weather Alert Tone or decodes the SAME data.

Press [SYSTEM] / [DEPT] / [CHANNEL] key again to return to Weather (Alert) Scan.

6.13.4. Weather Alert Priority (WX Alt Priority)

The scanner interrupts a scanning or searching every 5 seconds and checks whether there is 1050 Hz Weather Alert Tone on Weather Channels.
If it found, the scanner jumps to the Weather Channel and sounds Weather Alert Siren (for Weather Alert Tone). Pressing any key stops this Siren.
After the Siren stops, the scanner opens squelch and remains on the Weather Channel.
If the user presses any key again, it goes to Weather Scan Hold Mode.

***WX Alt Priority function does not work while it is in one of Weather Scan Mode and Tone-Out Mode.**

6.13.5. Key Operation During Weather (Alert) Scan Mode

Refer to APPENDIX “Key Action List”. (UB375Z_KeyActionList_V0_15.pdf)

6.14. TONE-OUT MODE

Select “Tone-Out Standby” in "Tone-Out for..." in menu mode.

Note : In this function, Close Call and WX Priority don't operate.

6.14.1. Display while Tone-Out Mode

Tone-Out Standby

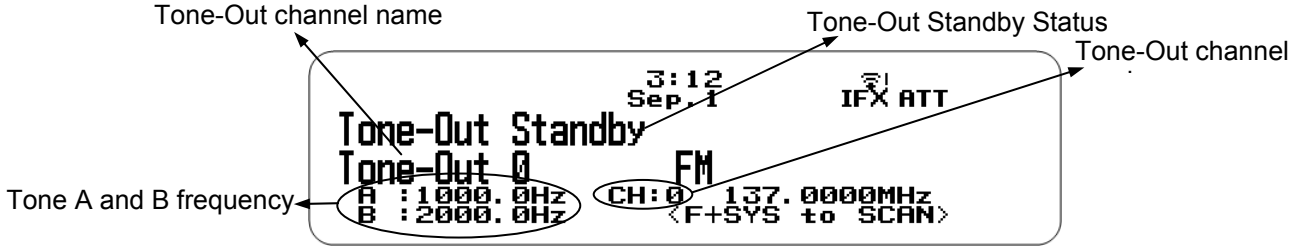


Figure 6-49 Tone A = 1000Hz Tone B = 2000Hz

Figure 6-50 Tone A = B = 0.0Hz

FM : These icons show the modulation type.
ATT : This icon shows the attenuator status of current channel. When Global attenuator is on, this icon blinks.
IFX : This icon shows when current channel is IF exchange frequency.

6.14.2. Tone-Out Standby Mode

When not both of Tone A and Tone B are set as 0.0Hz, the scanner starts the Tone-Out Standby. During monitoring the Tone-Out frequency, the speaker is muted until Tones are detected.

For two-tone pages, enter a value for Tone A and Tone B.
For single-tone pages (alert by a single short tone), enter the tone value for Tone A and "0" for Tone B.
For group tones (alert by a single long tone), enter "0" for Tone A and the tone value for Tone B.

When user sets the tone value for Tone A and Tone B, if a transmission is detected, the scanner checks whether the tone is corresponding to Tone A.
If the first tone matches Tone A, the scanner confirms that the tone is present for more than 250ms.
Then the second tone is confirmed whether it detects second tone less than 500ms.
And if the second tone matches Tone B and the tone is present for more than 100ms, the scanner opens squelch and sounds alert tone, alert light that user set in the menu. Then the scanner goes to Tone-Out Hold Mode.
When the user sets the tone value for Tone A and "0" for Tone B, the scanner confirms that Tone A matches the first tone and is present for the following range.

Tone A : 1.25 - 3.75 seconds

Then, the scanner goes to Tone-Out Hold Mode.

Or, when the user sets the "0" for Tone A and the tone values for Tone B, the scanner confirms that Tone B matches the first tone and it is present for more than 3.75 seconds.
Then, the scanner goes to Tone-Out Hold Mode.

Multi-Channel Monitoring

The scanner can check plural tone combination for channels that settings are the same. For this operation, set the same setting to frequency, Modulation and Attenuator.
For example, the scanner can check tone combination from CH 1 to CH3 at the same time when the scanner sets the following settings.

	Frequency (MHz)	Modulation	Attenuator	Tone A (Hz)	Tone B (Hz)
CH 1	137.0000	Auto*(NFM)	Off	1000.0	2000.0
CH 2	137.0000	Auto*(NFM)	Off	2200.0	3200.0
CH 3	137.0000	NFM	Off	1500.0	2500.0
CH 4	137.0000	NFM	On	1800.0	2800.0
CH 5	137.0000	FM	Off	2000.0	3000.0
CH 6	138.0000	Auto*(NFM)	Off	1000.0	2000.0

*Modulation setting "Auto" follows the initialization of Band Coverage. However, when modulation of the frequency in *1.1. BAND COVERAGE* is not FM or NFM, it operates compulsorily as FM. And “Auto “ is compared as NFM or FM with other channel’s setting.
*The scanner detects the Tone on the channel that its number is the smallest if the user set same tone in multi-channel.
While Tone-Out Standby Mode for Multi-Channel Monitoring, the scanner switches the channel display each 2 seconds. But the scanner checks all Tones for Multi-Channels simultaneously.
When one of the tone combinations is detected, it goes to Tone-Out Hold Mode.

6.14.3. Tone-Out Search Mode

When both of Tone A and Tone B are set as 0.0Hz, this channel will be treated as a Tone-Out Search channel. The scanner starts the Tone-Out Search. During monitoring the Tone-Out frequency, the speaker is muted until Tones are detected.
In this Tone-Out Search mode, if a transmission is detected, the scanner starts to check two-tone pages, single-tone pages and group tones.
For two-tone pages, Tone A must be present more than 250ms, Tone B must be present more than 100ms, and the time gap between Tone A and Tone B must less than 500ms.
For single-tone pages, Tone must be present between 1.25-3.75 seconds.
For group tones, Tone must be present more than 3.75 seconds.

If one kind of these tones is detected, the scanner begins to check whether it has been registed in another tone-out channel with the same setting to frequency, Modulation and Attenuator. If it has been registed, the scanner goes to Tone-Out Hold Mode with the registed channel number. If not, the scanner goes to Tone-Out Hold Mode with current Tone-Out search channel number.

Note: Tone-Out Search channel will not be treated as Multi-Channel even if it has the same setting of frequency, Modulation and Attenuator with other channels. When in Tone-Out Search Mode, scanner would not switches the channel display each 2 seconds for the Multi-Channel.

6.14.4. Tone-Out Hold Mode

The user can hear the transmission in Hold Mode. When the transmission ends and the delay time expired, the scanner returns to standby condition or search condition. Or pressing [SYSTEM] / [DEPT] / [CHANNEL] key also returns to standby condition or search condition.

Figure 6-51

The scanner displays the following in Tone-Out Hold Mode.

User can change to Hold Mode from Standby Mode or Search Mode by pressing [SYSTEM] / [DEPT] / [CHANNEL] key. Tone-out Hold Mode has no timeout.

If the scanner detected new tone-out sequential that has not been register yet, indicates Tone A/B Frequency.

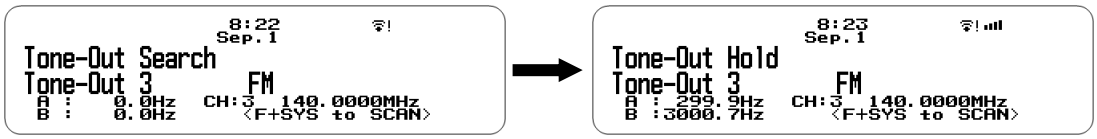


Figure 6-52 new tone-out sequential

User can return to the Tone-Out Search Mode by pressing [SYSTEM] / [DEPT] / [CHANNEL] key. Press [E yes] key, user will be prompted whether save the new detected tone-out sequential.

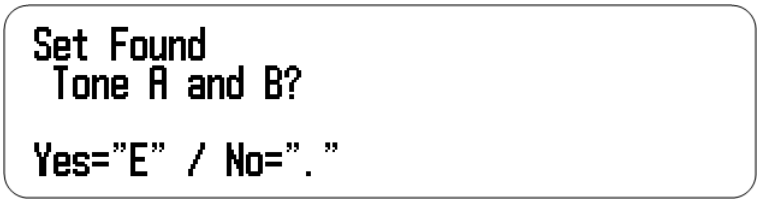


Figure 6-53

Press [E yes] key to save the new tone-out sequential and move to tone-out setting menu "Tone-Out Settings". Press [. no] key to cancel the new tone-out sequential and move to tone-out setting menu "Tone-Out Settings"

Note: If the user changes the Channel by turning [Rotary / FUNC] knob when in Hold Mode, Hold condition is canceled and it moves to next channel.

6.14.5. Key Operation During Tone-Out Mode

Refer to APPENDIX “Key Action List”. (UB375Z_KeyActionList_V0_15.pdf)

6.14.6. Update Location Information

Update Location Information of the scanner execute as follows;

1. When Baud Rate in Serial Port menu is Off
- the scanner can not receive data from GPS unit.
- the scanner use a location information by ZIP code.

2. When Baud Rate in Serial Port Serial is not Off
- The scanner update the location information by GPS unit even if the scanner has a location information by ZIP code.

6.15. DISCOVERY FEATURE

The discovery features make it easier than ever to find new channels using the scanner. This feature includes as follows;
- Trunking Discovery Mode
- Conventional Discovery Mode
- Review Discovery Mode

To access the discovery features, select Discovery Mode from the Discovery Menu.

Figure 6-54 Trunking Discovery Menu

The scanner have Auto Store feature.
If user set “On” of Auto Store, the scanner searches TGID and stores new found ID’s into a specified System. The storing name by Auto Store as follows;

when selected Trunking Discovery
- Favorites List name : Trunking Discovery
- System name : selected System Name
- Site name : selected Site Name
- Department name : Run Folder Name

when selected Conventional Discovery
- Favorites List name : Conventional Discovery
- System name : Session Name
- Department name : Run Folder Name

6.15.1. Trunking Discovery Mode

Trunking Discovery Mode allows user to monitor a trunked radio system, logging system channel activity and recording the audio for channels not currently in the database.
Before using this mode, set user’s location and range, and choose the database(s) to use for scanning.

To access the Trunking Discover Mode, select Trunking Discovery from the Discovery Menu.

Next, select to create a new discovery mode settings by selecting New Discovery Session, or open a previously created sessions.

Select System to select the trunked system to use, then enter the first few letters of the system.

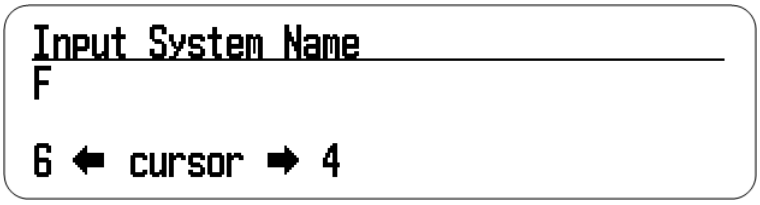


Figure 6-55 Enter a few letters

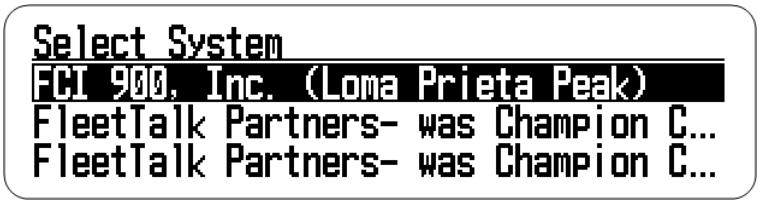


Figure 6-56 Selected System

Select the System to use for the session by pressing [E yes] key. Then select the site to use for the session. For multisite systems, more than one site will appear. Enter a name for the session.

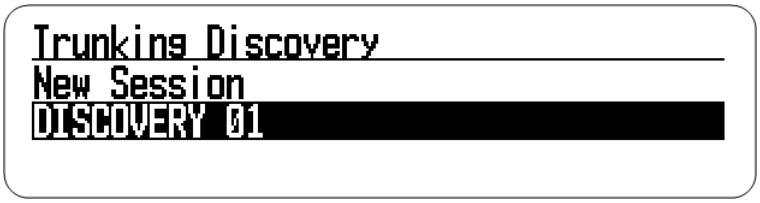


Figure 6-57 New Session

To start the discovery session, select “Start Discovery” and press [E yes] key.

6.15.2. Conventional Discovery Mode

Conventional discovery mode lets user monitor a range of frequencies, logging frequencies with activity and recording the audio for frequencies that are not already known to be in use in user’s area so that user can more easily identify the users. This includes frequencies used conventionally as well as in trunked radio systems.
Before using this mode, set user’s location and range, and choose the database(s) to use for scanning.
To access the Conventional Discovery Mode, select Conventional Discovery Mode from the Discovery Menu.

Figure 6-58 Conventional Discovery Menu

Next, select to create a new discovery mode settings by selecting New Discovery Session, or open a previously created sessions.

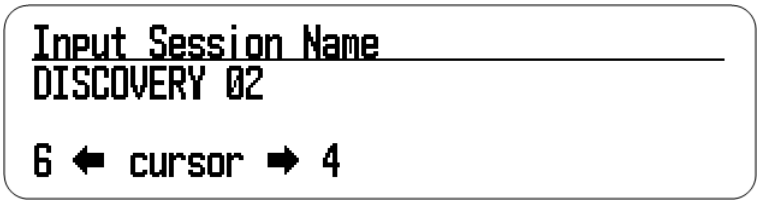


Figure 6-59 Input Session Name

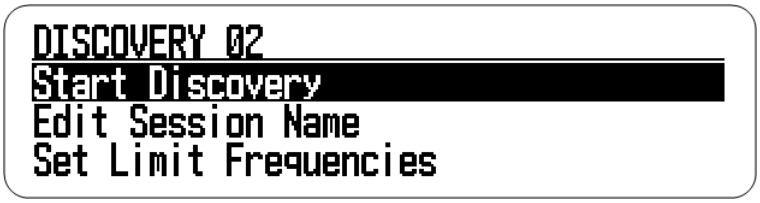


Figure 6-60 Select Menu

To start the discovery session, select “Start Discovery” and press [E yes] key.
User have to set Lower and Upper Frequency in Set Limit Frequencies menu before Start Discovery

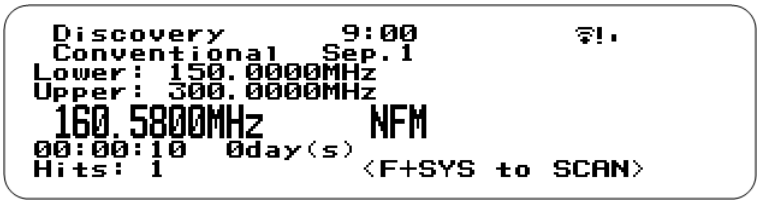


Figure 6-61 Conventional Discovery

6.15.3. Review Discovery Mode

In the review discovery mode, user can review the results of discovery mode runs, resume runs, or restart saved discovery sessions.
From the Discovery menu, select Review Discovery Mode.

Figure 6-62 Review Discovery Menu

6.15.3.1. Review Discovery

After selecting the Review Discovery Menu, select Trunking Discovery Results or Conventional Discovery Results.

Figure 6-63 Review Discovery

A list of all previous discovery sessions appears. Select the session name to review it.

Figure 6-64 Discovery Results

The Review menu appears for this session.
If the current database selection does not include the system used for the discovery session, “Restart this Run” and “Resume this Run” options are not available. Then displays message as follows;

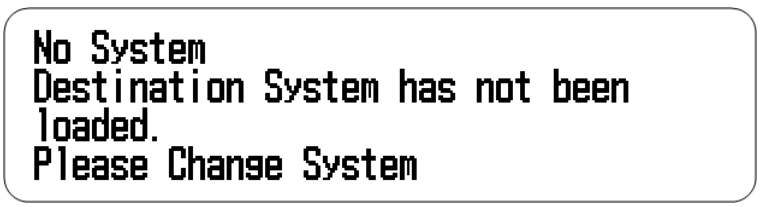


Figure 6-65

6.15.3.2. Review Run Results

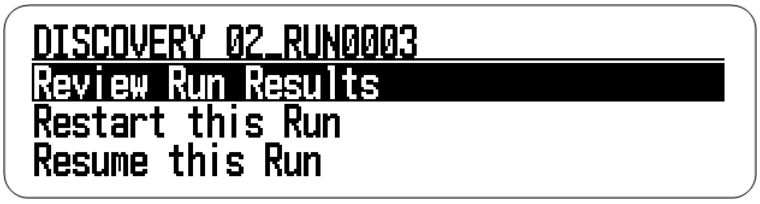


Figure 6-66

Select Review Run Results.
A summary list of all hits appears on the screen. In this view, hits on the same channel are grouped into one record.

Figure 6-67 Summary or Detail

Select Summary or Detail, and select a recording session. Then indicates Play or Information.

Hits for found channels include a recording of the audio during that hit. Select a line to play back the audio.

Recording session with no audio include “0 sec ...” character in *Figure 6-68 Recording Session (0 sec)*.

Figure 6-68 Recording Session (0 sec)

In this view mode, all hits are shown in the order they occurred.

6.16. Wi-Fi CONNECTION

The scanner have 2 kind of Wi-Fi connection. First, Access Point Mode, second Infrastructure Mode.

6.16.1. Access Point Mode

This mode is able to connect with Client units up to 5 clients.
If user use this mode, need some setting parameter as follows;
- SSID
- Security type
- Password

The scanner have already default setting value of these parameters.
User have to set each parameters for “Access Point Mode” in “Wi-Fi Setup” Menu.
Supported Security Types are “Open” and “WPA/WPA2”.

Refer to APPENDIX “Menu Tree Specification”. (UB375Z_MenuTreeSpecification_V0_15.pdf)

6.16.2. Infrastructure Mode

This mode is able to connect to Access Point unit.
If user use this mode, need a setting password basically. In a few case, there is no password with Access Point unit.
Supported Security Types are “Open”, “WPA/WPA2” and “WEP”.

User set password for Access Point unit in “Infrastructure Mode” in “Wi-Fi Setup” Menu.

Refer to APPENDIX “Menu Tree Specification”. (UB375Z_MenuTreeSpecification_V0_15.pdf)

6.17. AUDIO RECORD / REPLAY

The scanner can record a received signal. The scanner has 2 kinds of record type, the Inner Record and the User Record.

- Inner Record : works when the scanner does not work the User Record.
- User Record : works with ordering Start Record or Stop Record by user.

Inner Record

This feature works with a received signal whenever does not work the User Record.
To replay a recorded signal, user press [REPLAY] key.

User Record

To record a received signal, user press [Rotary / FUNC] + [REPLAY / RECORD] key. Then indicates the confirmation message. If user press [E yes] key, starts the User Record feature.
To replay a recorded signal, user have to stop the User record feature. After that, press and hold [REPLAY] key in function mode, then indicates Review Recordings List. User can select a recorded session from this list.

Note: ・These Record feature does not work simultaneously. And the scanner can not replay while the scanner records a received signal.
・No inner/user recording when monitor weather mode.
・When WX Alert mode and the scanner received an alert event, it starts recording.
・In WX monitor or Alert mode, [REPLAY] key goes to "Review WX Alerts" menu.
・In "Review WX Alerts", user can replay the selected alert recording.
・Received alerts are removed after the alert time expired.

6.18. REPEATER FIND

This feature sets whether the scanner attempts to locate the transmission on a repeater output frequency when it detects a transmission on a common repeater input frequency.
(See *7.9 REPEATER FREQUENCY LIST*)

On The scanner automatically applies repeater reverse to detected transmissions. If the scanner can detect the transmission on the output frequency, it displays "**Repeater Found**" on the display, and remains on the output frequency. If it does not detect the transmission on the output frequency or it lost the found signal, the scanner remains on the transmission on the original frequency.

Off The scanner does not perform Repeater Find.

Note: The user cannot avoid the Repeater frequency. And Repeater frequencies are not related to the avoided frequency list.

6.19. MEMORY INITIALIZATION

Press and hold [2], [9] and [DEPT] keys and turn on the scanner to initialize the Memory and be able to restore Preprogram list.
The scanner clear all data and return to initial setting and the display is as follows.

Figure 6-69

*If the user unplugs AC Adapter or turns off the scanner during initialization, the scanner starts initializing again at next power on.

6.20. COMMENT ABOUT OPERATION

There is below some comment about operation.

- If user press [SYSTEM] key after [ZIP] or [SERV] or [RANG] key, then go to scan mode.
  And if user press [MENU] or [AVOID] key after [ZIP] or [SERV] or [RANG] key, then back to previous mode.

7. OTHERS

7.1. INITIAL SETTINGS

Refer to APPENDIX “Menu Tree Specification”.
(“Initialize Value” in UB375Z_MenuTreeSpecification_V0_15.pdf)

7.2. TGID FORMAT FOR TRUNKED SYSTEM

[MOTOROLA TYPE1 SYSTEM]

Display Format

1) BFF-SS Normal ID
   B is 1 digit
   FF is 2 digits (0 filling)
   SS is 1-2 digit(s)
2) BFFF-S Normal ID (when FLEET is 100-127)
   B is 1 digit
   FFF is 3 digits
   S is 1 digit
3) B----- Partial ID (free FLEET and SUB-FLEET)
   B is 1 digit
4) BFF--- Partial ID (free SUB-FLEET)
   B is 1 digit
   FF is 2 digits (0 filling)
5) BFFF-- Partial ID (free SUB-FLEET when FLEET is 100-127)
   B is 1 digit
   FFF is 3 digits
6) NNNNN Normal ID when SIZE CODE is 0
   NNNNN is 1-5 digit(s)
7) iNNNNN I-CALL ID
   NNNNN is 1-5 digit(s)

Input Format

1) BFF-SS Normal ID
   B is 1 digit
   FF should be 2 digits (0 filling)
   SS is 1-2 digit(s)
2) BFFF-S Normal ID (when FLEET is 100-127)
   B is 1 digit
   FFF is 3 digits
   S is 1 digit
3) B- Partial ID (free FLEET and SUB-FLEET)
   B is 1 digit
4) BFF- Partial ID (fleet SUB-FLEET)
   B is 1 digit
   FF should be 2 digits (0 filling)
5) BFFF- Partial ID (fleet SUB-FLEET when FLEET is 100-127)
   B is 1 digit
   FFF is 3 digits
6) NNNNN Normal ID when SIZE CODE is 0
   N is 1-5 digit(s)
7) iNNNNN I-CALL ID
   N is 1-5 digit(s)

Range

B : BLOCK (0-7)
FF(F) : FLEET
S(S) : SUB-FLEET

FLEET and SUB-FLEET maximum numbers depend on the SIZE CODE of each BLOCK in FLEET-MAP setting.

SIZE CODE 0:BLOCK0 : NNNNN (0- 8191)
BLOCK1 : NNNNN (8192-16383)
BLOCK2 : NNNNN (16384-24575)
BLOCK3 : NNNNN (24576-32767)
BLOCK4 : NNNNN (32768-40959)
BLOCK5 : NNNNN (40960-49151)
BLOCK6 : NNNNN (49152-57343)
BLOCK7 : NNNNN (57344-65535)

SIZE CODE 1	: FLEET (00-127)	SUB-FLEET (0-3)
SIZE CODE 2	: FLEET (00-15)	SUB-FLEET (0-7)
SIZE CODE 3	: FLEET (00-07)	SUB-FLEET (0-7)
SIZE CODE 4	: FLEET (00)	SUB-FLEET (0-15)
SIZE CODE 5	: FLEET (00-63)	SUB-FLEET (0-3)
SIZE CODE 6	: FLEET (00-31)	SUB-FLEET (0-7)
SIZE CODE 7	: FLEET (00-31)	SUB-FLEET (0-3)
SIZE CODE 8	: FLEET (00-15)	SUB-FLEET (0-3)
SIZE CODE 9	: FLEET (00-07)	SUB-FLEET (0-3)
SIZE CODE 10	: FLEET (00-03)	SUB-FLEET (0-7)
SIZE CODE 11	: FLEET (00-01)	SUB-FLEET (0-15)
SIZE CODE 12	: FLEET (00)	SUB-FLEET (0-15)
SIZE CODE 13	: FLEET (00)	SUB-FLEET (0-15)
SIZE CODE 14	: FLEET (00)	SUB-FLEET (0-15)

I-CALL ID : i0-i65535

Note

Display Format is also valid in remote command input.

[MOTOROLA TYPE2 SYSTEM]

<Decimal Format>

Display Format
- 1) NNNNN Normal ID
  NNNNN is 1-5 digit(s)
- 2) iNNNNN I-CALL ID
  NNNNN is 1-5 digit(s)

Input Format
- 1) NNNNN Normal ID
  NNNNN is 1-5 digit(s)
- 2) iNNNNN I-CALL ID
  NNNNN is 1-5 digit(s)

Range
Normal ID : 1-65535
I-CALL ID : i0-i65535

Note
TYPE2 format cannot support PARTIAL ID.

<Hexadecimal Format>

Display Format
- 1) NNNh Normal ID
  NNN is 1-3 digit(s)
- 2) iNNNNh I-CALL ID
  NNNN is 1-4 digit(s)

Input Format
- 1) NNN Normal ID
  NNN is 1-3 digit(s)
- 2) iNNNN I-CALL ID
  NNNN is 1-4 digit(s)

Range
Normal ID : 1 – FFF
I-CALL ID : i0 – iFFFF

Note
TYPE2 format cannot support PARTIAL ID.
Normal ID: Hexadecimal Format omits lower 4 bit

Ex)
001h (Hex) -> 0016 (Dec)

[P25 SYSTEM]

<Decimal Format>

Display Format

1) NNNNN Normal ID
NNNNN is 1-5 digit(s)

2) iNNNNNNNN I-CALL ID
NNNNNNNN is 1-8 digit(s)

Input Format

1) NNNNN Normal ID
NNNNN is 1-5 digit(s)

2) iNNNNNNNN I-CALL ID
NNNNNNNN is 1-8 digit(s)

Range

Normal ID : 1-65535
I-CALL ID : i0-i16777215

Note

P25 format cannot support PARTIAL ID.

<Hexadecimal Format>

Display Format

1) NNNNh Normal ID
NNNN is 1-4 digit(s)

2) iNNNNNNh I-CALL ID
NNNNNN is 1-6 digit(s)

Input Format

1) NNNN Normal ID (Hexadecimal Format)
NNNN is 1-4 digit(s)

2) iNNNNNN I-CALL ID
NNNNNN is 1-6 digit(s)

Range

Normal ID : 1 – FFFF
I-CALL ID : i0 – iFFFFFF

Note

P25 format cannot support PARTIAL ID.

[EDACS SYSTEM]

<AFS format>

Display Format

1) AA-FFS Normal ID
AA is 2 digits (0 filling)
FF is 2 digits (0 filling)
S is 1 digit
2) AA---- Partial ID (free FLEET and SUB-FLEET)
AA is 2 digits (0 filling)
3) AA-FF- Partial ID (free SUB-FLEET)
AA is 2 digits (0 filling)
FF is 2 digits (0 filling)

Input Format

1) AA-FFS Normal ID
AA should be 2 digits (0 filling)
FF should be 2 digits (0 filling)
S should be 1 digit
2) AA- Partial ID (free FLEET and SUB-FLEET)
AA should be 2 digits (0 filling)
3) AA-FF Partial ID (free SUB-FLEET)
AA should be 2 digits (0 filling)
FF should be 2 digits (0 filling)

Range

AA : AGENCY 2digits (00-15)
FF : FLEET 2digits (00-15)
S : SUB-FLEET 1digit (0-7)
*ALL0(00-00-0) is invalid

Note

Both AFS and Decimal Format are valid to input regardless of AFS setting.
Display Format depends on AFS/Decimal setting except for I-CALL ID.
Use Decimal format when I-CALL is needed.
I-CALL format is always showed as Decimal Format regardless of AFS setting.
AFS format cannot support I-CALL ID format.
Display Format is also valid in remote command input.

<Decimal format>

Display Format

1) NNNN Normal ID
NNNN is 1-4 digit(s)
2) iNNNNN I-CALL ID
NNNNN is 1-5 digit(s)

Input Format

1) NNNN Normal ID
NNNN is 1-4 digit(s)
2) iNNNNN I-CALL ID
NNNNN is 1-5 digit(s)

Range

Normal ID : 1-2047
I-CALL ID : i0-i16383

Note

Both AFS and Decimal Format are valid to input regardless of AFS setting.

Display Format depends on AFS/Decimal Setting except for I-CALL ID.
I-CALL format is always showed as Decimal Format regardless of AFS setting.
Decimal format cannot support Partial ID.

[LTR SYSTEM]

Display Format

1) A-RR-NNN Normal ID
A is 1 digit
RR is 2 digits
NNN is 3 digits

2) A-RR---- Partial ID
A is 1 digit
RR is 2 digits

Input Format

1) A-RR-NNN Normal ID
A is 1 digit
RR is 2 digits
NNN is 3 digits

2) ARRNNN Normal ID (Easy Way)
A is 1 digit
RR should be 2 digits (01-20)
NNN should be 3 digits (000-254)

3) A-RR Partial ID (free ID)
A is 1 digit
RR should be 2 digits (01-20)

Range

A	: AREA CODE	1digit (0 or 1)
RR	: HOME REPEATER	2digit (01-20)
NNN	: ID	3digit (000-254)

Note

LTR System has no I-CALL ID.

7.3. FLEET MAP

The range of TGID is from 0 to 65535. Each Block divides this range into eight equally, and the Block is set one of 15 Size Codes.

The range of TGID	0 - 65535
Block 0	0 - 8191
Block 1	8192 - 16383
Block 2	16384 - 24575
Block 3	24576 - 32767
Block 4	32768 - 40959
Block 5	40960 - 49151
Block 6	49152 - 57343
Block 7	57344 - 65535

The Size Code from 0 to 11 uses 1 Block, but others occupy plural Blocks.

The "**Size Code 12**" occupies 2 Blocks and this can be set to even Block numbers. If the user tries to set this to odd Block number, it is set to previous Block number.
The next number of the Block number set "Size Code 12" will also be treated "Size Code 12". But this number does not appear in Block selection.
For example, if the user tries to set this Size Code to Block 3, it is set to Block 2. Then the Block 3 is skipped because of the Block 2 is set to "Size Code 12". Block 2 and Block 3 are treated as "Size Code 12". Then the scanner advances to Block 4 to select Size Code.

The "**Size Code 13**" occupies 4 Blocks and this can be set to Block 0 or Block 4. If the user tries to set this to Block number 1 - 3, it is set to Block 0. And if the user tries to set this to Block number 5 - 7, it is set to Block 4.
The next 3 numbers of the Block number set "Size Code 13" will also be treated as "Size Code 13" and does not appear.

The "**Size Code 14**" occupies all 8 Blocks. So, this Size Code can be set to Block 0 only. If the user tries to set this to other Block numbers, it is set to Block 0. Then only the Block 0 is displays and can be changed. All Blocks are treated as "Size Code 14".
If the user changes a Size Code from these 3 Codes to a Size Code which occupies a fewer number of Block, the scanner sets other Blocks to "Size Code 0".
For example, if the user changes the Block 0 from "Size Code 13" to "Size Code 5", the setting of Blocks are: Block 0 = Size Code 5, Block 1 - 3 = Size Code 0.

Details of each Size Code are as follows.

Size Code	Fleet-SubFleet-ID	The number of Block occupancy
0	(as Type II ID)	1
1	128-4-16	1
2	16-8-64	1
3	8-8-128	1
4	1-16-512	1
5	64-4-32	1
6	32-8-32	1
7	32-4-64	1
8	16-4-128	1
9	8-4-256	1
10	4-8-256	1
11	2-16-256	1
12	1-16-1024	2
13	1-16-2048	4
14	1-16-4096	8

*The numbers of "Fleet-SubFleet-ID" means the number of each. If the number of Fleet is 4, there are 4 Fleets and the range of the Fleet is from 0 to 3.

7.4. WEATHER CHANNELS

The modulation for all Weather Channels is FM.

CH No.	Frequency
1	162.5500 MHz
2	162.4000 MHz
3	162.4750 MHz
4	162.4250 MHz
5	162.4500 MHz
6	162.5000 MHz
7	162.5250 MHz

7.5. CTCSS FREQUENCY

There are following 50 frequencies.

67.0Hz	88.5Hz	114.8Hz	151.4Hz	177.3Hz	203.5Hz	250.3Hz
69.3Hz	91.5Hz	118.8Hz	156.7Hz	179.9Hz	206.5Hz	254.1Hz
71.9Hz	94.8Hz	123.0Hz	159.8Hz	183.5Hz	210.7Hz	
74.4Hz	97.4Hz	127.3Hz	162.2Hz	186.2Hz	218.1Hz	
77.0Hz	100.0Hz	131.8Hz	165.5Hz	189.9Hz	225.7Hz	
79.7Hz	103.5Hz	136.5Hz	167.9Hz	192.8Hz	229.1Hz	
82.5Hz	107.2Hz	141.3Hz	171.3Hz	196.6Hz	233.6Hz	
85.4Hz	110.9Hz	146.2Hz	173.8Hz	199.5Hz	241.8Hz	

7.6. DCS CODE

There are following 112 hexadecimal codes.

006	031	054	116	145	205	245	266	332	411	452	506	612	703
007	032	065	122	152	212	246	271	343	412	454	516	624	712
015	036	071	125	155	214	251	274	346	413	455	523	627	723
017	043	072	131	156	223	252	306	351	423	462	526	631	731
021	047	073	132	162	225	255	311	356	431	464	532	632	732
023	050	074	134	165	226	261	315	364	432	465	546	654	734
025	051	114	141	172	243	263	325	365	445	466	565	662	743
026	053	115	143	174	244	265	331	371	446	503	606	664	754

7.7. AVAILABLE CHARACTER

The letters which a user can use are as follows.
The turn of below's Character List is the same as a turn to display on LCD by rotating [Rotary / FUNC] knob.

[File/Folder Name]
"ABCDEFGHIJKLMNOPQRSTUVWXYZabcdefghijklmnopqrstuvwxyz1234567890_()-"

User can use in belows Menu.
・Input System Name and Set Discovery Name of Trunking Discovery Menu
・Input Session Name and Set Discovery Name of Conventional Discovery Menu
・Review Recordings of Replay Options Menu

[Name Tag]

“ABCDEFGHIJKLMNOPQRSTUVWXYZabcdefghijklmnopqrstuvwxyz1234567890[\]^_`{|}~!”#$%&’()*+,-./:;<=>?@ “

User can use in belows Menu.
・Edit Name of Edit Custom Menu.
・Edit Name of Review WX Alerts.
・Edit Name of Select Tone-Out
・Edit Name of Select site
・Edit Name of Edit Channel
etc

7.8. REVERSE LIST

Range (MHz)	Offset (MHz)	Range (MHz)	Offset (MHz)
29.5200 - 29.5800	+ 0.1	450.0000 - 454.9875	+ 5
29.6200 - 29.6800	- 0.1	455.0000 - 459.9875	- 5
52.0100 - 52.9900	+ 1	460.0000 - 464.9875	+ 5
53.0100 - 53.9900	- 1	465.0000 - 469.9875	- 5
143.7500	+ 4.375	470.0000 - 472.9875	+ 3
143.9000	+ 4.25	473.0000 - 475.9875	- 3
144.5100 - 144.8900	+ 0.6	476.0000 - 478.9875	+ 3
145.1100 - 145.4900	- 0.6	479.0000 - 481.9875	- 3
146.0100 - 146.3850	+ 0.6	482.0000 - 484.9875	+ 3
146.4150 - 146.5050	+ 1	485.0000 - 487.9875	- 3
146.5950	+ 1	488.0000 - 490.9875	+ 3
146.6100 - 146.9850	- 0.6	491.0000 - 493.9875	- 3
147.0000 - 147.3900	+ 0.6	494.0000 - 496.9875	+ 3
147.4150 - 147.5050	- 1	497.0000 - 499.9875	- 3
147.5950	- 1	500.0000 - 502.9875	+ 3
147.6000 - 147.9900	- 0.6	503.0000 - 505.9875	- 3
148.1250	- 4.375	506.0000 - 508.9875	+ 3
148.1500	- 4.25	509.0000 - 511.9875	- 3
222.1200 - 223.3800	+ 1.6	758.0000 - 775.9937	+30
223.7200 - 224.9800	- 1.6	788.0000 - 805.9937	-30
420.0000 - 424.9875	+ 5	806.0000 - 823.9875	+ 45
425.0000 - 429.9875	- 5	851.0000 - 868.9875	- 45
440.0000 - 444.9875	+ 5	896.0000 - 901.0000	+ 39
445.0000 - 449.9875	- 5	935.0000 - 940.0000	- 39

7.9. REPEATER FREQUENCY LIST

Base Frequency (MHz)	Repeater Offset (MHz)	Base Frequency (MHz)	Repeater Offset (MHz)
455.0151 - 459.9950	- 5	497.0001 - 500.0000	- 3
465.0101 - 469.9950	- 5	503.0001 - 506.0000	- 3
473.0001 - 476.0000	- 3	509.0001 - 512.0000	- 3
479.0001 - 482.0000	- 3	758.0000 - 775.9937	+30
485.0001 - 488.0000	- 3	806.0051 - 823.9875	+45
491.0001 - 494.0000	- 3	894.0125 - 921.0000	+39

7.10. CEA2009-SAME EVENT CODE(ANSI/CEA-2009-A October 2005)

Standard	Event Code	EVENT LEVEL			LCD Display
		Warning	Watch	Advisory	
ADR	Administrative Message			O	Admin Message
AVA	Avalanche Watch		O		Avalanche
AVW	Avalanche Warning	O			Avalanche
BHW	Biological Hazard Warning	O			Biological
BWW	Boil Water Warning	O			Boil Water
BZW	Blizzard Warning	O			Blizzard
CAE	Child Abduction Emergency			O	Child Emergency
CDW	Civil Danger Warning	O			Civil Danger
CEM	Civil Emergency Message	O			Civil EMG
CFA	Coastal Flood Watch		O		Coastal Flood
CFW	Coastal Flood Warning	O			Coastal Flood
CHW	Chemical Hazard Warning	O			Chemical
CWW	Contaminated Water Warning	O			Contam. Water
DBA	Dam Watch		O		Dam Break
DBW	Dam Break Warning	O			Dam Break
DEW	Contagious Disease Warning	O			Contagious
DMO	Practice/Demo			O	System Demo
DSW	Dust Storm Warning	O			Dust Storm
EAN	Emergency Action Notification	O			EMG Notify
EAT	Emergency Action Termination			O	EMG Terminate
EQW	Earthquake Warning	O			Earthquake
EVA	Evacuation Watch		O		Evacuate Note
EVI	Immediate Evacuation	O			Evacuate Note
FCW	Food Contamination Warning	O			Food
FFA	Flash Flood Watch		O		Flash Flood
FFS	Flash Flood Statement			O	Flash Flood
FFW	Flash Flood Warning	O			Flash Flood
FLA	Flood Watch		O		Flood
FLS	Flood Statement			O	Flood
FLW	Flood Warning	O			Flood
FRW	Fire Warning	O			Fire
FSW	Flash Freeze Warning	O			Flash Freeze
FZW	Freeze Warning	O			Freeze
HLS	Hurricane Statement			O	Hurricane
HMW	Hazardous Material Warning	O			Hazardous
HUA	Hurricane Watch		O		Hurricane
HUW	Hurricane Warning	O			Hurricane
HWA	High Wind Watch		O		High Wind
HWW	High Wind Warning	O			High Wind
IBW	Iceberg Warning	O			Iceberg

Standard	Event Code	EVENT LEVEL			LCD Display
		Warning			
			Watch		
				Advisory	
IFW	Industrial Fire Warning	O			Industrial Fire
LAE	Local Area Emergency			O	Local EMG
LEW	Law Enforcement Warning	O			Law Enforcement
LSW	Land Slide Warning	O			Land Slide
NAT	National Audible Test			O	National Audible
NIC	National Information Center			O	National Info
NMN	Network Notification Message			O	Network Message
NPT	National Periodic Test			O	Nation Period
NST	National Silent Test			O	Nation Silent
NUW	Nuclear Power Plant Warning	O			Nuclear Plant
POS	Power Outage Advisory			O	Power Outage
RHW	Radiological Hazard Warning	O			Radiological
RMT	Required Monthly Test			O	Monthly
RWT	Required Weekly Test			O	Weekly
SMW	Special Marine Warning	O			Special Marine
SPS	Special Weather Statement			O	Special WX
SPW	Shelter In-Place Warning	O			Shelter
SVA	Severe Thunderstorm Watch		O		Thunderstorm
SVR	Severe Thunderstorm Warning	O			Thunderstorm
SVS	Severe Weather Statement			O	Severe WX
TOA	Tornado Watch		O		Tornado
TOE	911 Telephone Outage Emergency			O	911 Phone Outage
TOR	Tornado Warning	O			Tornado
TRA	Tropical Strom Watch		O		Tropical Storm
TRW	Tropical Storm Warning	O			Tropical Storm
TSA	Tsunami Watch		O		Tsunami
TSW	Tsunami Warning	O			Tsunami
TXB	Transmitter Backup On			O	TX Backup On
TXF	Transmitter Carrier Off			O	TX Carrier Off
TXO	Transmitter Carrier On			O	TX Carrier On
TXP	Transmitter Primary On			O	TX Primary On
VOW	Volcano Warning	O			Volcano
WFA	Wild Fire Watch		O		Wild Fire
WFW	Wild Fire Warning	O			Wild Fire
WSA	Winter Storm Watch		O		Winter Storm
WSW	Winter Storm Warning	O			Winter Storm
**A	Unrecognized Watch		O		Unrecognized
**E	Unrecognized Emergency			O	Unrecognized
**S	Unrecognized Statement			O	Unrecognized
**W	Unrecognized Warning	O			Unrecognized

7.11. FONT DATA

The scanner has 2 type Font Data, 8x8 dot data and 8x16 dot data.
Refer to APPENDIX “Font Data Specification”. (UB375Z_FontDataSpecification_V0_05.pdf)

8. REVISION

Version	Date	Author	Comment
0.01	2013/05/28	Kohtaka	Draft
0.02	2013/05/29	Kohtaka	・Change some indication matters, etc.
0.03	2013/06/24	Kohtaka	・Change Version No. of Menu Tree Specification.
0.04	2013/0726	Kohtaka	・Change Menu Tree ・Change LCD screen Image ・Add Remark in Table 1-1 ・Change 4.2 ICON ・Add 6.2 Welcom Screen ・Change 6.5.5.1 Quick Key
0.05	2013/08/08	Kohtaka	・Change description 174.000 MHz in Table 1-1 ・Change heading 1.14. STARTUP CONFIGURATION ・Change heading 1.23. CONTROL CHANNEL ONLY ・Delete item ID AUTOSTORE ・Delete item TRUNKING ACTIVITY INDICATORS ・Delete item FREQUENCY AUTOSTORE ・Change description 1.11. AVOID FUNCTION FOR SCANNING ・Change description 1.14. STARTUP CONFIGURATION ・Change heading 1.40. CLOSE CALL TEMPORARY STORE ・Change heading 1.42. LOCATION BASED SCANNING ・Change heading 1.46. EDIT FAVORITE LIST ・Change heading 1.52. TRUNKING DISCOVERY ・Change heading 1.53. CONVENTIONAL DISCOVERY ・Change description 1.58. AUDIO FEEDING ・Change description 1.59. USB REMOTE CONTROL ・Change heading and description 1.60. Wi-Fi CONNECTION ・Change Figure 4-3 ・Change description 4.2. ICONS ・Change Figure 6-1 ・Change description 6.5.2. Startup Key Operation ・Change description 6.5.3. Start Scanning ・Change description 6.5.5. Scanning Operation ・Change description 6.5.6. Location Based Scan ・Change description 6.5.7. Temporary System Hold ・Change description 6.5.9. System Hold ・Change description 6.6.2. General Operation ・Add item 6.6.3. Site Hold on Trunked System ・Change description 6.6.5. Hold on Trunked System ・Change description 6.6.7. Direct Entry ・Change description 6.6.7.2. Store TGID ・Change description 6.6.7.3. Direct Access ・Change description 6.9.3. Custom Search ・Change description 6.9.4. Quick Search ・Change description 6.10.1. General Operation ・Change description 6.10.2. Go to Quick Search Hold Directly ・Change description 6.10.3. Direct Entry ・Change description 6.11.2. Close Call Search ・Change description 6.12.2. Weather Alert Scan ・Change description 6.12.4. Weather Alert Priority(WX Alt Priority) ・Add description 6.13.6. Update Location Information ・Add item 6.14. DISCOVERY FEATURE ・Add item 6.15. Wi-Fi CONNECTION ・Change description 7.4. WEATHER CHANNELS
0.06	2013/08/17	Kohtaka	・Change Table1-1 ・Change description in 1.11. AVOID FUNCTION FOR SCANNING ・Change description in 1.19. TRUNK TRACKING ・Change description in 1.37. DROPOUT DELAY

Version	Date	Author	Comment
			・Add description in 1.40. CLOSE CALL TEMPORARY STORE ・Change heading and description in 1.59. REMOTE CONTROL ・Change description in 3. CONTROLS AND KEYS ・Change heading and description in 3.1. SCROLL CONTROL FUNCTION ・Change heading in 3.2. KEY FUNCTION ・Change description in 4.2. ICONS ・Change heading in 6.2. WELCOME SCREEN ・Change description in 6.5.1. Display while Scan Mode ・Change description in 6.5.3. Start Scanning ・Change description in 6.5.4. Scanning Order ・Change description in 6.5.5.2. Scan for Trunked Systems ・Change description in 6.5.7. Temporary System Hold ・Change description in 6.5.8. Temporary Department Hold ・Change description in 6.5.11. Quick System Select ・Change description in 6.6.1. Display while Scan Hold Mode ・Change description in 6.6.2. General Operation ・Change description in 6.6.5. Hold on Trunked System ・Change description in 6.6.6. Hold on TalkGroup ID from ID Search / ID Scan ・Change description in 6.7.1. Priority Scan ・Change description in 6.8.1. Priority ID Scan ・Change description in 6.9.3. Custom Search ・Change description in 6.9.4. Quick Search ・Change description in 6.9.4.1. Quick Search for frequency ・Change description in 6.10.1. General Operation ・Change description in 6.10.2. Go to Quick Search Hold Directly ・Change description in 6.11.1. Display while Close Call Mode ・Change description in 6.11.2. Close Call Search ・Change description in 6.11.3. Close Call Only ・Change description in 6.11.4. Close Call Hold ・Change description in 6.12. WEATHER SCAN MODE ・Change description in 6.12.2. Weather Alert Scan ・Change description in 6.12.3. Weather (Alert) Scan Hold ・Change description in 6.12.4. Weather Alert Priority (WX Alt Priority) ・Change description in 6.13.2. Tone-Out Standby Mode ・Change description in 6.13.4. Tone-Out Hold Mode ・Change description in 6.13.6. Update Location Information ・Change description in 6.14. DISCOVERY FEATURE ・Delete heading Auto Store, contents move to 6.14. ・Change description in 6.14.2. Conventional Discovery Mode ・Change description in 6.14.3.1. Review Discovery ・Change description in 6.14.3.2. Review Run Results ・Change description in 6.15. Wi-Fi CONNECTION ・Change heading and description in 6.15.1. Access Point Mode ・Change description in 6.15.2. Infrastructure Mode ・Add 6.16. AUDIO RECORD / REPLAY ・Add 6.17. REPEATER FIND ・Add 7.7. REVERSE LIST ・Add 7.8. REPEATER FREQUENCY LIST
1.00	2013/08/20	Kohtaka	・Change description in 1.42. LOCATION BASED SCANNING ・Change description in 3. CONTROLS AND KEYS ・Change description in 6.5.5.2. Scan for Trunked Systems ・Change description in 6.5.11. Quick System Select ・Change description in 6.6.6. Hold on TalkGroup ID from ID Search / ID Scan ・Change description in 6.8.1.Priority ID Scan ・Change description in 6.12.2. Weather Alert Scan ・Change description in 6.14.3.2. Review Run Results ・Change Version Number to 1.00
1.01	2013/08/22	Kohtaka	・Add 6.5. ADVANCED CHANNEL MENU
1.02	2013/0830	Kohtaka	・Add 8 DCS Code in 7.6. DCS CODE
1.03	2013/09/10	Kohtaka	・Change description in 1.14 STARTUP CONFIGURATION

Version	Date	Author	Comment
			・Change description in 4.2. ICON ・Change screen image in 6.2. WELCOME SCREEN ・Add description in 6.3.1. Volume Control ・Add description in 6.3.2. Squelch Control ・Add 6.3.3. P25 Condition Mode ・Change description in 6.6.2. Startup Key Operation ・Change screen image in 6.6.3. Start Scanning ・Change description in 6.6.4. Scanning Order ・Change description in 6.7.7. Direct Entry ・Change screen image in 6.10.1. Display while Search Mode ・Add 6.12.5. CC Bands ・Change screen image in 6.13.2. Weather Alert Scan ・Change description in 6.16. Wi-Fi CONNECTION ・Change description in 6.17. AUDIO RECORD/REPLAY ・Add 6.20. COMMENT ABOUT OPERATION ・Sort DCS Code in 7.6. DCS CODE ・Add 7.7. AVAILABLE CHARACTER
1.04	2013/09/10	Kohtaka	・Change Front Panel Image in 2.DESIGN ・Change description in 3. CONTROLS AND KEYS ・Delete description about Function Mode in 3.1.SCROLL CONTROL FUNCTION ・Change descriiption in 6.6.1.Display while Scan Mode ・Change descriiption in 6.6.3.Start Scanning ・Change descriiption in 6.6.4.Scanning Order ・Change descriiption in 6.6.5.2.Scan for Trunked Systems ・Change descriiption in 6.6.9.System Hold ・Change descriiption in 6.6.10.Department Hold ・Change descriiption in 6.7.1.Display while Scan Hold Mode ・Change descriiption in 6.7.7.2.Store TGID ・Change descriiption in 6.7.7.3. Direct Access ・Change descriiption in 6.8.1. Priority Scan ・Change descriiption in 6.10.4.Quick Search ・Change descriiption in 6.10.4.1.Quick Search for frequency ・Change descriiption in 6.12.4.Close Call Hold ・Change descriiption in 6.12.5.CC Bands ・Change descriiption in 6.13.3.Weather (Alert) Scan Hold ・Change descriiption in 6.15.3.1.Review Discovery ・Change descriiption in 6.17.AUDIO RECORD/REPLAY ・Change descriiption in 6.18.REPEATER FIND ・Change descriiption in 7.7. AVAILABLE CHARACTER ・Change Appendix Document Version (Menu Tree Specification 0.13) ・Change Appendix Document Version (Key Action List 0.11)
1.05	2013/09/11	Kohtaka	・Change description in 5.4. ALERT IN SCANNER MODE ・Change description in 6.6.3. Start Scanning
1.06	2013/09/13	Kohtaka	・Change Appendix Document Version (Key Action List 0.13)
1.07	2013/09/25	Kohtaka	・Change screen image in 6.1. POWER ON ・Change Appendix Document Version (Menu Tree Specification 0.14) ・Change Appendix Document Version (Key Action List 0.14)
1.08	2013/09/26	Kohtaka	・Add description 6.7.7. Change Site Avoid Condition ・Add description 7.11. FONT DATA ・Change Appendix Document Version (Advanced Channel Menu 0.02)
1.09	2013/10/01	Kohtaka	・Change Appendix Document Version (Menu Tree Specification 0.15) ・Change screen image in 3. CONTROLS AND KEYS ・Change screen image in 6.2. WELCOME SCREEN ・Change screen image in 6.6.3. Start Scanning ・Change screen image in 6.15.1. Trunking Discovery Mode ・Change screen image in 6.15.2. Conventional Discovery Mode